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LAKE POWELL RESEARCH PROJECT BULLETIN

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LEGAL-POLITICAL HISTORY OF WATER RESOURCE DEVELOPMENT IN THE UPPER COLORADO RIVER BASIN

PART I

SUMMARY OF THE LEGISLATIVE HISTORY
OF THE
COLORADO RIVER STORAGE PROJECT

by

Gary D. Weatherford and Phillip Nichols

PART II

THE POLITICS OF WATER RESOURCE DEVELOPMENT
IN THE
UPPER COLORADO RIVER BASIN

by

Dean E. Mann

September 1974

LAKE POWELL RESEARCH PROJECT

The Lake Powell Research Project (formally known as Collaborative Research on Assessment of Man's Activities in the Lake Powell Region) is a consortium of university groups funded by the Division of Advanced Environmental Research and Technology in RANN (Research Applied to National Needs) in the National Science Foundation.

Researchers in the consortium bring a wide range of expertise in natural and social sciences to bear on the general problem of the effects and ramifications of water resource management in the Lake Powell region. The region currently is experiencing converging demands for water and energy resource development, preservation of nationally unique scenic features, expansion of recreation facilities, and economic growth and modernization in previously isolated rural areas.

The Project comprises interdisciplinary studies centered on the following topics: (1) level and distribution of income and wealth generated by resources development; (2) institutional framework for environmental assessment and planning; (3) institutional decision-making and resource allocation; (4) implications for federal Indian policies of accelerated economic development of the Navajo Indian Reservation; (5) impact of development on demographic structure; (6) consumptive water use in the Upper Colorado River Basin; (7) prediction of future significant changes in the Lake Powell ecosystem; (8) recreational carrying capacity and utilization of the Glen Canyon National Recreational Area; (9) impact of energy development around Lake Powell; and (10) consequences of variability in the lake level of Lake Powell.

One of the major missions of RANN projects is to communicate research results directly to user groups of the region, which include government agencies, Native American Tribes, legislative bodies, and interested civic groups. The Lake Powell Research Project Bulletins are intended to make timely research results readily accessible to user groups. The Bulletins supplement technical articles published by Project members in scholarly journals.

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

ABSTRACT

This study is in two parts. Part I is a descriptive summary of the legal history surrounding passage of the Colorado River Storage Project Act of 1956. Part II approaches those historical events analytically from the perspective of political science.

Part I chronicles the dominant events of the legislative history of the Colorado River Storage Project Act of 1956. By that Act, Congress authorized the creation of the Colorado River Storage Project, a broad network of water-storage, hydropower, and irrigation projects in the Upper Colorado River Basin. Many of the legal and political variables underlying that 1956 legislation influence the current management of Glen Canyon Dam and Lake Powell. The major political and legal decisions emanating from the Colorado River Compact of 1922 and resulting in the 1956 Act are identified in Part I. Five general themes are evident in history: (1) the developmental needs of the Upper Basin; (2) the legal constraints of the 1922 Colorado River Compact; (3) the economic wisdom of the Colorado River Storage Project; (4) the conservation value of Dinosaur National Monument; and (5) the engineering feasibility and geologic effects of the project.

Part II discusses the roles played by the principal actors in the legislative history of the Colorado River Storage Project. Lowi's "distributive" model is used to account for the way in which a political coalition formed and operated in the Upper Basin to foster the legislation. The dynamics of the political bargaining, including the nature of some of the major tradeoffs, are described. The persistence of distributive politics, in the face of increasing pressure for a more "regulatory" mode of decision-making, is discussed in the context of some of the current problems such as water quality of the river. Finally, several unresolved issues of public policy concerning Colorado River management are posed.

PART I

SUMMARY OF THE LEGISLATIVE HISTORY OF THE COLORADO RIVER STORAGE PROJECT ACT

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SUMMARY OF THE LEGISLATIVE HISTORY OF THE COLORADO RIVER STORAGE PROJECT ACT

INTRODUCTION

The Colorado River Storage Project

The Lake Powell and Glen Canyon Dam complex form the central feature of a large-scale, multiple-purpose water resource development known as the Colorado River Storage Project (CRSP). CRSP is composed of four storage units and more than 20 participating irrigation projects. These facilities are located throughout the Upper Colorado River Basin (UCRB) in Wyoming, Utah, Colorado, Arizona, and New Mexico (Figure 1). Lake Powell and Glen Canyon Dam, the principal storage facilities, have a storage capacity of 27,000,000 acre-feet and a power generating capacity of 950,000 kilowatts.

Originally, CRSP was authorized for $760 million, but subsequent increases, including authorizations of the various participating projects, have raised the authorization to approximately $2.1 billion. Less than $1 billion of this amount has actually been appropriated to date.

The basic authorizing legislation for CRSP was the Colorado River Storage Project Act (CRSPA) of 1956 which has been amended several times since.[1]

The Political Coalition

The Colorado River Storage Project Act resulted from political accommodation at all levels--local, regional, and national. Its passage represented the efforts of a regional coalition of numerous interest groups. The Upper Basin states, and an interstate commission of their formation, were the dominant political players under which local social and economic interests became aligned. Working with and through a sympathetic federal agency and congressional committee structure, these various players were bound together by a mutual desire for publicly funded and subsidized water resource development. And quite predictably, the coalition faced some opposition. Three reasonably distinct groups opposed CRSP bills in Congress: California water interests, conservationists, and a small coterie of legislators who questioned the economic feasibility of, and opposed federal subsidy for, the proposed project.

The formation of the coalition can be summarized as follows. At the direction of Congress, the Bureau of Reclamation conducted a comprehensive study of possible irrigation, water storage, and hydropower projects for the Colorado River. The Bureau's regional offices consulted closely with representatives of state water agencies in this process. Favorable approval of the possible projects by the Executive branch was withheld because the water entitlement of each Basin state was not yet determined. The Upper Basin states negotiated a compact to divide the water, rather than resorting to litigation. The compact gave birth to the Upper Colorado River Commission, composed of representatives from the affected states. As the primary institution representing the coalition of Upper Basin water interests, the Commission spearheaded the promotion of CRSP. Each state in the Upper Basin bargained to gain participating projects and units within

the major project. Implicitly underlying each state's claim was its water entitlement under the compact.

In order for the Commission to present a united front before Congress, differences within and among states had to be resolved. In Colorado and New Mexico, for example, claims between rural interests within, and urban interests outside the Basin were compromised. The intrastate institutions involved in this bargaining process included municipalities, water districts, farmers associations, and Indian tribes.

As the various proposed projects were assembled into a legislative package, their political and economic interdependency became fixed. The federal elective officers from each state conditioned their support of the overall coalition on obtaining certain project benefits for their own state. Recognized throughout was the economic dependency of the various proposed irrigation projects on the power production units, principally Glen Canyon Dam.

More than 40 components (participating projects and units) for the overall CRSP were put forward informally by the Upper Basin states. However, practical and fiscal limitations prevented simultaneous authorization of all components of the overall project and led to the establishment of priorities. All the storage units and some 11 participating projects were slated for initial authorization; some 25 other projects were to receive "priority planning" consideration; and the remaining went unnamed in the initial legislation, their fate resting on further planning and future legislation.

The "legislative" phase of this CRSPA history occurred during the period from 1953 through 1956. The significance of the legislative events of those years can be appreciated only against the backdrop of certain political and legal antecedents related to water resource development and management in the greater Colorado River Basin.

HISTORICAL BACKGROUND

The political and legal decisions which have shaped water resource development in the UCRB have been formed in the context of regional and national constraints. Water resource development and management in the Colorado River Basin as a whole has been primarily the result of political accommodation and, secondarily, of judicial decision. The political accommodation is chiefly reflected in two interstate compacts (1922 and 1948) and in a number of federal statutes: principally, the Boulder Canyon Project Act of 1928,[2] the Boulder Canyon Project Adjustment Act of 1940,[3] the Colorado River Storage Project Act of 1956, and the Colorado River Basin Act of 1968.[4] The judicial decisions have been rendered in four suits by Arizona against California (1931, 1934, 1936, and 1963) and in one suit by the United States against Arizona (1935).[5]

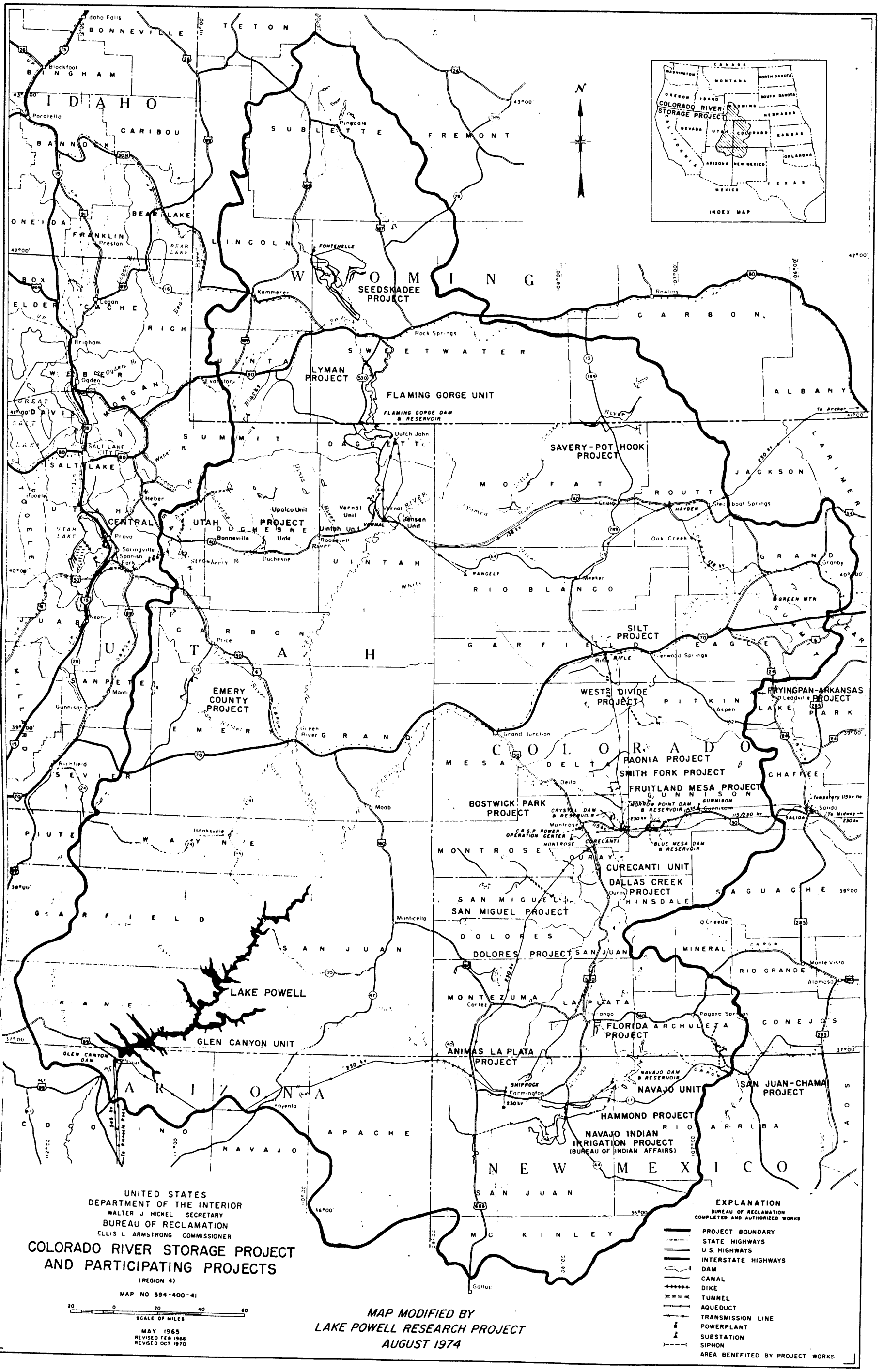

Figure 1: CRSP Projects

It is important to realize at the outset that when CRSPA was passed in 1956, large-scale water resource development in the UCRB lagged behind development in the Lower Basin. During the first half of this century, the Lower Basin gained Laguna Dam, Hoover Dam, Davis Dam, Parker Dam, Imperial Dam, Colorado River Aqueduct, All-American Canal, and their related facilities, mostly through federal investment. Apart from the Uncompahgre and Grand Valley projects in Colorado and the Strawberry Valley project in Utah, most of the activity in the Upper Basin involved unconsolidated irrigation development and private financing.[6]

1922 Colorado River Compact

Large-scale utilization of Colorado River water in the Lower Basin commenced with private irrigation development in the desert regions of the Palo Verde and Imperial Valleys in Southern California and with federal financing of irrigation development in Arizona. Amidst the exigencies of flood and drought cycles, Colorado River water had irrigated several hundred thousand acres of Lower Basin land by the end of World War I. The demand in Southern California for a large federal water-storage and regulation project became acute enough by 1919 to cause authorizing legislation to be introduced in Congress.

By the end of World War I, a growing conflict between Lower and Upper Basin states was discernible. The Upper Basin, which contained more irrigated acreage than did the Lower Basin at the time,[7] feared that the increasing utilization of the Colorado River downstream would create paramount water rights in the Lower Basin under the possible interstate application of the legal doctrine of prior appropriation ("first-in-time, first-in-right").[8] In turn, Lower Basin interests recognized that Upper Basin states would not tolerate legislation for large-scale federal financing of down-river development as long as such development posed a threat to future Upper Basin development.

There appeared to exist, then, a certain baseline mutuality of interest in an interstate agreement which would quantify the water rights of the respective Basin states. With the required state legislation and Congressional consent obtained during 1920 and 1921, lengthy negotiations began and were completed in 1922 under the guidance of the federal representative and chairman, Herbert Hoover. The resulting compact was executed by state and federal representatives on November 24, 1922, although it did not become effective until 1929.

The 1922 Compact did not determine the water rights for each Basin state; rather, it divided the beneficial use of the water between two interstate jurisdictions: the Upper and Lower Basins. Although each "basin" was apportioned in perpetuity "the exclusive beneficial consumptive use of 7,500,000 acre-feet of water per annum," the "Upper Division" states (Colorado, New Mexico, Utah, and Wyoming) were also prohibited from causing "the flow of the river at Lee Ferry to be depleted below an aggregate of 75,000,000 acre-feet for any period of ten consecutive years."[9] The latter provision, coupled with a requirement that deficiencies in supplying any obligation to Mexico be shared by Upper and Lower Division states, has caused questions to be raised over time about the meaning of the 7.5-million-acre-feet apportionment as it relates to the Upper Basin.[10] The 1922 Compact was influenced by overly optimistic forecasts of water supply based on flow

records of a comparatively wet water cycle.[11] The Colorado River has since become over-subscribed, giving rise to legal disputes, some of which live on to this day.

The 1922 Compact left the Upper Division states with the expectation, since revised, that nearly half of the consumptive utility of the river was reserved for their future use. Lower Basin development continued apace--after an extenuated legislative struggle which resulted in passage of the Boulder Canyon Project Act of 1928[12] and admist several judicial battles between California and Arizona. In 1935 the gates of Hoover Dam were closed. Power contracts between the federal government and various Lower Basin users created a new set of legal obligations for the river. Later, the Colorado River Aqueduct began carrying municipal and industrial water outside the Basin to the coastal plain of Southern California, while the All-American Canal supplied the Imperial and Coachella Valleys.

In the summer of 1934, representatives of Colorado, New Mexico, Utah, Wyoming, and the Bureau of Reclamation met and conferred on the subject of Upper Basin water development. They urged the immediate negotiation of an interstate compact. In the interim, they agreed that each state should proceed unimpeded to develop, constrained only by an imprecise notion that the share of water taken ought to be equitable.[13] Compact negotiations were not commenced until a decade later, however, and development was restricted by a lack of public funding.

Basin Planning Studies, 1935 - 1945

In deference to Upper Basin interests, the Boulder Canyon Project Act of 1928 authorized and directed the Secretary of the Interior "to make investigation and public reports of the feasibility investigations."[14]

President Roosevelt created the National Resources Committee (NRC) in the 1930's and charged it with the mission of setting the guidelines for economic development of the nation's natural resources. The Water Resources Committee of NRC studied and inventoried the problems and programs of the country's major river basins. The Upper and Lower Colorado River Basins each were represented by a drainage basin committee, composed of state and federal representatives, which submitted reports to the Water Resources Committee in 1937. The 1937 reports of the Upper Colorado Drainage Basin Committee called for the investigation and construction of some 60 water resource projects.[15] (None of the major storage units ultimately authorized in 1956 was proposed.) The final report of the Water Resources Committee of NRC, however, projected only a six-year program for irrigation, and this was restricted primarily to the improvement of existing facilities or the provision of supplemental water supplies in more than a dozen small projects.[16]

The Bureau of Reclamation concurrently was conducting further investigation on a regional scale. The Upper Basin states of Utah, New Mexico, Colorado, and Wyoming formed a Fact-Finding Committee to support the Bureau in its preparation of a comprehensive plan for the development of Upper Basin water resources.[17] In 1940, the planning effort received a boost with the passage of the Boulder Canyon Project Adjustment Act, which authorized additional funding to conduct the Upper Basin feasibility investigations.[18]

In 1938, the seven Basin states perceived a sufficient mutuality of interest to establish the Seven State Organization, which was designed to present to Congress a united front in favor of the federal financing of water resource development in the Basin. Two committees evolved: the Committee of Fourteen, which was concerned with water problems and was composed of two representatives from each of the seven states, and the Committee of Sixteen, which was concerned with power generation and was composed of the members of the Committee of Fourteen plus two representatives of the purchasers of Boulder Canyon Dam power. This seven-state combine was successful in achieving passage of the Boulder Canyon Project Adjustment Act (1940) and the belated ratification by Arizona of the 1922 Compact.[19] (The organization was ultimately dissolved when, in July 1946, the California water and power representatives formally withdrew from the organization. Friction had developed earlier over the opposition of California and Nevada to the Mexican Water Treaty of 1944.)

World War II delayed the completion of the Basin water investigations. However, during the war years two important changes occurred in the procedures for planning and authorizing federal water projects: the President interjected the Bureau of the Budget into the close relationship between the Department of the Interior and interested Congressional committees;[20] and then Congress required that the states be permitted to review and comment on departmental proposals in advance of their being submitted to Congress.[21]

In February 1944, over the objections of California, the Mexican Treaty was executed, wherein, among other things, the United States agreed to deliver a "guaranteed annual quantity of 1,500,000 acre-feet" of Colorado River water to Mexico.[22]

The Krug Report of 1947

In March 1946, the Bureau of Reclamation completed its Project Planning Report (No. 34-8-2) for the comprehensive development of the Colorado River Basin, whereupon it was submitted to the affected states and several federal agencies for comment. The report identified 134 potential water resource developments for the Basin (100 in the Upper Basin alone).

Having received the states' comments, Secretary of the Interior Krug transmitted to Congress in 1947 an interim report entitled The Colorado River that described the status of the investigations authorized to be made by the Boulder Canyon Project Act and the Boulder Canyon Project Adjustment Act. This interim report is referred to as the "Krug Report" or House Document 419.[23]

The principal features of what later became the CRSP were encompassed by the 100 Upper Basin projects and/or units that had been identified as possible developments by the Krug Report. The Krug report, however, judiciously refrained from recommending that any of the projects be authorized by Congress, essentially because of a "lack of a determination of the rights of the individual States to utilize the waters of the Colorado River system."[24] The challenge posed to the Basin states was obvious; they would have to settle their water right claims before the Government would make a favorable finding of feasibility for any of the potential projects.

The Upper Basin states responded to this challenge by negotiating another compact, amidst attempts by certain Lower Basin interests to have the United States commence a suit to determine the interstate water rights in the Colorado River.

The Upper Colorado River Basin Compact of 1948

The Governors (or their representatives) of Arizona, Colorado, New Mexico, Utah, and Wyoming convened during July 1946 in Cheyenne, Wyoming. That meeting was a preliminary step to a formal organizational meeting (held July 31, 1946, in Salt Lake City, Utah) of the commission established to negotiate an Upper Colorado River Basin Compact. Harry W. Bashore, former Commissioner of Reclamation, who had been named by President Truman as the federal representative to this meeting, was elected Chairman of the commission. Seven subsequent sessions of the negotiation commission were held.

The Upper Colorado River Basin Compact was executed on October 11, 1948, was ratified by the state legislatures, and was given Congressional consent in 1949.[25] The resulting Upper Colorado Commission began its life in August 1949.[26]

The new UCRB Compact provided a formula for the apportionment of the per annum consumptive use of Colorado River water among the Upper Basin states. Arizona was to receive 50,000 acre-feet, and the remaining balance of the consumptive use was divided as follows: Colorado, 51.75 percent; New Mexico, 11.25 percent; Utah, 23 percent; and Wyoming, 14 percent.[27] As part of this apportionment, provision was made for allocating and charging the consumptive uses of certain interstate tributaries of the Green and Colorado River systems.

The Upper Basin states thus met the Secretary of the Interior's condition. They could now begin to prepare for a legislative battle to gain Congressional authorization for a major water development project, while Arizona and California moved closer to the court house in their dispute over how the use of the Lower Basin's portion of the water was to be allocated.

Colorado River Storage Project Planning Report of 1951

As Bureau of Reclamation planning for the Upper Basin progressed, the controversial issue of the proposed construction of dams within Dinosaur National Monument, at Echo Park and Split Mountain on the Green River, came to the fore and prompted Secretary of the Interior Chapman to conduct a public hearing on the matter in April 1950. In July 1950, Chapman directed that the planning report be completed with those dams included. He approved the Bureau's project planning report (No. 4-8a.81-1) for CRSP on January 26, 1951.

More than two years passed, however, before the Department of the Interior's CRSP report was submitted to Congress. Behind the delay there lay conflict. Intra-agency and inter-agency skirmishes were occurring within the Executive Branch in advance of the expected battles in Congress. For example, in July 1951, the Army Corps of Engineers described the Department of the Interior's CRSP report as not being sufficiently advanced "to permit

atisfactory comments to be made on the engineering and economic justification of he plan."[28] Major General Lewis A. Pick, hief of Engineers, questioned the economic justification of the participating rojects and criticized the "unrestricted subsidization of irrigation projects by ower revenues."[29]

CHRONOLOGICAL SUMMARY OF LEGISLATIVE EVENTS

Eighty-Second Congress, econd Session (1952)

In the spring of 1952, Senator Watins (Utah) chided Secretary Chapman for the latter's failure to send the already-pproved departmental report to the Bureau of the Budget and to Congress. Perturbed y the delay, Watkins finally cosponsored, ith Senator Bennett (Utah), a CRSP bill (S. 3013). Introduced in April 1952, the easure, which included a provision for uilding Echo Park dam in a national monument, died quietly in the Senate Committee n Interior and Insular Affairs.

ighty-Third Congress, irst Session (1953)

Conservation

In March 1953, the National Park ervice published a pamphlet which listed proposed reclamation projects within the ational park system and which concluded hat "The greatest peril to the parks from dam proposals comes from the plans and rograms of the governmental dam building agencies themselves and the pressures hich their activities generate in the arious sections of the country." Included in the list was the proposal to uild Echo Park dam in Dinosaur National onument.[30]

Bills Introduced

Senate Bill 1555, to authorize CRSP, was introduced on April 2, 1953, cosponsored by the ten senators of the Upper Basin states (Goldwater and Hayden of Arizona, Watkins and Bennett of Utah, Anderson and Chavez of New Mexico, Millikin and Johnson of Colorado, Hunt and Barrett of Wyoming) and was referred to the Senate Committee on Interior and Insular Affairs.[31] Three House bills to authorize CRSP were also introduced on April 2 and were referred to the House Committee on Interior and Insular Affairs. Representative Aspinall of Colorado sponsored H.R. 4443,[32] Congressman Dawson of Utah introduced H.R. 4449,[33] and Utah's Representative Stringfellow sponsored H.R. 4463.[34]

In December 1953, the Secretary of the Interior submitted for comment his proposal for CRSP to certain federal agencies and to the affected states, in compliance with the Flood Control Act of 1944.[35]

Eighty-Third Congress, Second Session (1954)

House Hearings

From January 18 to January 27, 1954, hearings on CRSP were held before the Subcommittee on Irrigation and Reclamation of the House Committee on Interior and Insular Affairs, giving rise to the following developments.

California's Legal Objections. Northcutt Ely, special counsel to California's Colorado River Board, appeared before the House committee to suggest how the disputed sections of the 1922 Compact might be resolved by the Supreme Court in the pending litigation of Arizona v. California.

Ely requested that the committee amend the proposed legislation to require that the United States and the Upper Basin states "covenant" to strictly comply with the 1922 Compact, without regard to any adverse effects that might befall CRSP.[36]

The first disputed Compact provision Ely identified was the 1922 Compact's apportionment of 7.5 million acre-feet of water per year to the Upper Basin: did it represent the maximum that could be taken in one year, or was it the maximum annual average that could be taken over a period of years? Ely said that the Bureau of Reclamation's planning was based on the assumption that it was an average, not a maximum.[37]

The Upper Basin's reply to this and other legal issues raised by California was made in the subsequent 1954 Senate hearings by Jean S. Breitenstein, who had served on the Upper Colorado River Commission and had acted as attorney for the Colorado Water Conservation Board. Breitenstein admitted that the meaning of the annual 7.5-million-acre-feet allocation was in dispute, but said that whether the Supreme Court ultimately decided it was a maximum or an average figure was irrelevant to CRSP, since total consumptive use after completion of the project would only be 4.2 million acre-feet.[38]

The second issued discussed by Ely concerned the measurement of the consumptive use of water. In the pending case of Arizona v. California, counsel for California was urging that consumption be measured at the place of diversion and as diversion less return flow. The Upper Basin states, on the other hand, wanted water measurement to include only the net depletion at the dividing line (Lee Ferry) between the Basins, thereby excluding from the total measurement the amount of water consumed upstream that would have been lost in any event, by evaporation or seepage, before reaching the Lower Basin. Ely said the Bureau of Reclamation was assuming that this dispute would be resolved in favor of the Upper Basin. If the Bureau were wrong, then the Upper Basin would have 500,000 acre-feet less water to consume, Ely contended.[39]

Breitenstein later replied on behalf of the Upper Basin that California's proposal to measure consumption by "diversion less return flow" would probably be rejected by the Supreme Court. Even if California's position were sustained, Breitenstein said the total Upper Basin consumption would be only 4.7 million acre-feet, comfortably within the 7.5-million-acre-feet apportionment.[40]

Ely asserted that the planners of CRSP had failed to consider the possibility that one-half of the 1.5-million-acre-feet obligation to Mexico might have to be borne by the states of the upper division.[41] Breitenstein's subsequent reply paralleled his other responses to the legal arguments of California: the issue was only "theoretical" because the Upper Basin's allocation was large enough to provide an "adequate cushion to supply any potential obligation of the upper division States."[42]

The quality of water delivered from the Upper Basin was another subject covered by the Compact, according to Ely. Noting that Article VIII of the 1922 Compact provided that "present perfected rights to the beneficial use of waters of the Colorado River system are unimpaired by this compact," Ely contended that California's perfected rights should be unimpaired in quality as well as quantity. He

asked that studies be made to determine whether proposed transmountain diversions would impair water quality and thereby violate the Compact.[43] Breitenstein again took issue with Ely, testifying that water quality was not regulated by the 1922 Compact and was not a legal issue.[44]

The legal rights of Indians to the water of the Colorado River would also negatively affect CRSP according to Ely. While Ely was opposed to expansive Indian water right claims, he argued that "The existence of the Indian claims, and uncertainty as to their accounting, raises serious questions as to the water supply for the projects in both the Upper and Lower Basins. Those questions will not be resolved until this suit [Arizona v. California] is decided."[45]

Breitenstein, conceding that Upper Basin development could be disrupted if Indian claims were given priority, countered with the following opinion: "It is inconceivable that the United States as guardian of the Indians will ever assert that the rights of the Indians come ahead of the use of water on the great reclamation projects which the United States has constructed..."[46]

Conservation. Undersecretary of the Interior Tudor testified that taking Echo Park dam out of CRSP would be like "taking the pistons out of an engine."[47] He stated that he was opposed to all proposed alternate sites because they would cause an unacceptable loss due to evaporation in comparison to the Echo Park site in Dinosaur National Monument. The alternative site with the least additional net evaporative loss would be a higher dam at Glen Canyon (elevation of 3735 feet), with a loss of 70,000 acre-feet of water more than that of Echo Park.[48] David Brower of the Sierra Club charged that the Department of the Interior had made significant mathematical errors in computing evaporation statistics.[49]

Appearing on behalf of the American Planning and Civil Association, General U.S. Grant III, a leading spokesman for conservation, suggested that in place of the proposed Echo Park and Navajo dams, the project should include dams at White-river, Cross Mountain, and Flaming Gorge. Grant said his plan would create more water storage for less money, with only 44,000 acre-feet of additional net loss from evaporation.[50]

Supporters of the Echo Park Dam testified that it would increase recreation opportunity by giving access to Dinosaur Monument and by eliminating dangerous rapids.[51] It was reported that the House Committee had received 4731 letters concerning Echo Park, and that only 53 of them favored building the dam.[52]

Water Quality. Congressman Harrison (Wyoming) accused California of "unclean hands" in its demand for assurances of water quality when the Lower Basin provided no such assurances for the quality of water delivered to Mexico.[53]

Bureau of Reclamation officials stated that CRSP would raise the level of the concentration of solids in water leaving the Upper Basin from 0.78 ton solids per acre foot to 0.88 ton, which the Bureau considered "good" water.[54]

New Mexico Projects. Witnesses from New Mexico objected to the Secretary's proposal for immediate authorization of the Navajo Indian Irrigation Project and said the project would be delayed for simultaneous consideration with the

San Juan-Chama Project which would divert San Juan River water into the Rio Grande Basin.[55]

Representatives from Texas objected to the San Juan-Chama Project on the grounds that the complexity of a combined hydroelectric project and a diversion might lead to management errors adverse to Texas interests in the Rio Grande River.[56]

Economics. Congressman Engle of California, one of two California Congressmen who favored CRSP, commented that he thought the Upper Basin might be better off it if were to attract industry with inexpensive power rather than sell the power at a profit to "gold [plate] an irrigation system."[57]

Bureau of the Budget

On March 18, 1954, the Director of the Bureau of the Budget wrote a letter to the Secretary of the Interior approving the financial plan embodied in CRSP.[58]

Presidential Endorsement

President Eisenhower issued a press release on March 20, 1954, endorsing CRSP.[59] Having given the affected states 90 days to comment on the Department of Interior proposal, the Administration transmitted its recommendation for the project to Congress at the end of March. Deleted from that recommendation were Navajo Dam and the Navajo Indian Irrigation Project, both originally proposed by the Department.[60]

Economics

In a response to a letter from Congressman Saylor (Pennsylvania), the Director of the Bureau of the Budget wrote, in May 1954, that deferring repayment of non-interest-bearing loans for irrigation for 44 years would create an "... interest subsidy for the participating projects [that] might equal about two-thirds of the construction cost allocated to irrigation."[61]

Conservation

In May, the Department of the Interior revised its evaporation statistics for alternate sites to Echo Park. Instead of the 70,000-acre-feet net additional loss from a higher Glen Canyon dam projected by Undersecretary Tudor during the House Hearings, the Department revised its prediction downward to a 25,000-acre-feet net additional loss.[62]

House Report

On June 9, 1954, H.R. 4449 was reported out of the House Committee on Interior and Insular Affairs. The bill recommended 11 participating projects and storage units at Glen Canyon, Echo Park, and Curecanti. Not included in the bill as reported were the Navajo Indian Irrigation Project and the San Juan-Chama Project.

A minority report was also filed. It objected to the construction of Echo Park dam in a national monument; to authorization of reclamation projects which were asserted to be in potential conflict with provisions of the 1922 Compact; and to the federal subsidy that was alleged to be implicit in the repayment plan.[63]

Senate Hearings

From June 28 to July 3, 1954, hearings were held on S. 1555 before the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs.[64]

Conservation. The Undersecretary of Interior testified that a higher Glen Canyon dam was still not a viable alternative to Echo Park, because Echo Park was essential in order to provide upstream regulation.[65] Another witness from the Department indicated that a high Glen Canyon dam would not meet "criteria" of economy, safety of structure, and protection of Rainbow Bridge. No data on economy or structural safety were made part of the record, however.[66] The Department did not mention evaporation loss at alternative sites, although it had earlier used that factor in opposing the elimination of a dam at Echo Park.

It was revealed that General Grant's counterproposal at the House Hearings was based on 1940 prices, and, therefore, its economic feasibility was in doubt.[67]

David Brower of the Sierra Club appeared before the Senate committee with a new alternative to the Administration's plan. Proposing that neither Glen Canyon nor Echo Park dams be built, Brower suggested that the dams which should be constructed were Flaming Gorge, Cross Mountain, Curecanti, and Navajo. It was asserted that a storage capacity of 1,000,000 acre-feet, compared with the Department of the Interior's proposal of 37,000,000 acre-feet, would provide sufficient regulation for the Upper Basin to use 85 percent of its allocated water[68] at less expense than the Administration's recommendation.

Economics. Leslie A. Miller, appearing on behalf of the Hoover Commission, offered a financial analysis showing the interest costs to the government of deferring repayment of irrigation. An interest rate of 2-1/2 percent for 44 years plus the unamortized balance over the six-year repayment period would result in a $540-million interest subsidy, or $2700 per acre of newly irrigated land.[69]

Arizona v. California

On July 15, 1954, California moved to join Colorado, New Mexico, Utah, and Wyoming as indispensible parties to the litigation of Arizona v. California. Senator Watkins, a leading proponent of CRSP, said the motion was politically timed to encourage the delay of CRSP until after the case was decided.[70]

Senate Debate

The Senate briefly debated S. 1555 on August 20, 1954, but the debate was terminated when it was learned that the House was planning to adjourn without considering CRSP. No vote was taken in the Senate.

The only matter of controversy discussed in the short debate was economics, raised by Senator Kennedy (Massachusetts), who asked CRSP proponents several questions relating to the repayment plan and the existence of an interest subsidy. Those supporting the project replied that there was absolutely no subsidy in CRSP.[71]

Feasibility

In October 1954, Wilbur A. Dexheimer, Commissioner of Reclamation, wrote David Brower of the Sierra Club that, "Our design specialists are quite concerned whether or not the foundation characteristics

of Glen Canyon and Gray Canyon sites are capable of safely supporting high dams, 700 feet and 575 feet, respectively."[72]

During November, the Secretary of the Interior wrote Brower, "The poorly cemented and relative weak condition of the [rock at Glen Canyon]...has given the engineers...some concern as to the competency of the foundations to support any structure higher than 700 feet. Experiments to improve the strength of the foundation through a chemical grouting process were unsuccessful." The Secretary also wrote that more tests would be made after the dam was authorized. "If such intensive studies indicate the advisability of modifying the present selected height of the dam, appropriate changes will be made in the designs prior to construction."[73]

1922 Compact

Governor Johnson of Colorado prepared a statement in December that raised questions of potential violations of the 1922 Compact by the projects to be authorized in CRSP. In this "maverick" statement, Johnson was especially concerned about Article III(e) which provides that, "The states of the Upper Division shall not withhold water...which cannot reasonably be applied to domestic and agricultural use." He suggested that this provision might preclude impounding waters at Glen Canyon if the states of the Lower Basin chose to request the release of the water.[74]

Eighty-Fourth Congress, First Session (1955)

New CRSP Bills

Senate Bill 500 to authorize CRSP was introduced on January 18, 1955, and was referred to the Senate Committee on Interior and Insular Affairs. Like its 1954 counterpart, the bill was co-sponsored by all ten senators from states of the Upper Basin (Goldwater and Hayden of Arizona, Anderson and Chavez of New Mexico, Watkins and Bennett of Utah, Millikin and Allcott of Colorado, Barrett and O'Mahoney of Wyoming).[75]

On January 24, three bills to authorize CRSP were introduced in the House and were referred to the House Committee on Interior and Insular Affairs. Representative Fernandez sponsored H.R. 2836,[76] and Colorado's Representative Aspinall introduced his own bill, H.R. 3383, as well as H.R. 3384 by request.[77]

H.R. 4488 was introduced on February 28 by Congressman Rogers of Colorado, and it also was referred to the House Committee on Interior and Insular Affairs.[78]

Senate Hearings

Hearings on S. 500 were held before the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs, from February 28 to March 5, 1955. Among the significant events were the following.

Economics. The Chief Engineer of the Los Angeles Department of Water & Power introduced a chart delineating how much subsidy would be involved, in a variety of repayment plans, on $1 million spent on irrigation. The most expensive was the plan embodied in CRSP, by which, the Chief Engineer said, irrigators would repay no more than 20 percent of the cost during a 50-year period and the remainder of the non-interest-bearing loans would be deferred for 44 years when power profits

would then repay them. He said the subsidy of interest would amount to $4,390,026 for each $1 million loaned.[79]

Feasibility. Officials of the Department of the Interior qualified comments they had made in letters to David Brower in October and November of 1954. They indicated the reference to future studies of the foundation rock at Glen Canyon represented standard operating procedure and did not reflect any realistic probability that the plans would be changed.[80]

Conservation. Building a dam at the Echo Park site in Dinosaur National Monument was still essential, according to the Department of the Interior, because the dam would provide needed storage, would minimize the loss by evaporation, and would create upstream regulation necessary for Split Mountain and Gray Canyon Dams. In addition, the Department stressed the strategic location of the site relative to power markets in the Upper Basin.[81]

When David Brower of the Sierra Club appeared before the Senate committee, he responded to the Department's argument for strategically placed power production. Brower now suggested that no substitute for Echo Park dam be built. Instead, he suggested that the federal government should construct steam-generation plants at the same 2-1/2 percent interest rate on the investment that would be charged to Echo Park dam. He said the low-interest loans, along with the plants' non-taxable status as federal property, would ensure that power could be produced for 4.9 mills.[82]

California's Legal Objections. In 1954, the Upper Basin states' position on most legal uncertainties was that CRSP would not be adversely affected by any potential decision of the courts. California's special counsel, Northcutt Ely, responded during the 1955 Senate hearings by listing the following two reasons for his immediate concern with the legislation. First, since each of the bills as introduced included a statement of intent to develop eventually projects using all of the water allocated to the Upper Basin, Ely said legal disputes should be resolved prior to authorizing the project.[83] Second, Ely also asserted that the 1954 report by the Department of the Interior recommending CRSP was based on clearly erroneous assumptions concerning the allocation of surplus waters.[84]

Governor Johnson of Colorado appeared before the committee to reiterate arguments made in his statement of December 1954 that Article III(e) of the 1922 Compact might preclude storage of water until such water could be used immediately by the Upper Basin.[85] A Department of the Interior attorney testified that Governor Johnson was mistaken because Herbert Hoover, who had chaired the negotiations of the 1922 Compact, had interpreted Article III(e) to prohibit only "arbitrary withholding" of water. The Department felt that impoundment of water solely for power production might be arbitrary, but

that storage for river regulation to enable eventual full consumptive use was not arbitrary.[86]

Indian Water Rights. On the question of whether Indian water rights could conflict with the plans for Upper Basin development, Norman Littell, counsel for the Navajo Tribe, said there was "no such thing as a bare, naked legal right." He said he viewed potential Indian water rights as a "shield and not a sword."[87]

William Zimmerman, representing the Association on American Indian Affairs, testified that the Government "has an obligation to see those water rights are preserved, and if they are lost I would expect, frankly, that the Navajos would ultimately sue the United States for a large sum of money, because the water rights were not made available to them."[88]

Civil Defense. Val Peterson of the Civil Defense Administration testified that CRSP would help protect the country by providing inexpensive power as an incentive for industry to move away from the seaboards. He said the industrial sites in the Upper Basin would permit factories to "go underground."[89]

Senate Report

On March 30, 1955, S. 500 was reported out of the Senate committee. It recommended authorization of six water storage units: Curecanti, Cross Mountain, Echo Park, Flaming Gorge, Glen Canyon, and Navajo. Twelve participating projects would be fully authorized, and two others, San Juan-Chama and Navajo Indian Irrigation, would be approved tentatively, but would require a further act of Congress before construction. As in 1954, the Senate committee was unanimous in its support, with the exception of Senator Kuchel (California) who filed a minority report stressing the legal uncertainties of concern to his state. Senator Neuberger (Oregon), while concurring in the committee recommendation for the project, filed separate views which recommended that Echo Park dam be deleted from the legislation.[90]

House Hearings

From March 9 until April 22, 1955, hearings were held on the House bills by the Subcommittee on Irrigation and Reclamation of the House Committee on Interior and Insular Affairs. During the hearings, a variety of important developments took place.

Conservation. Much of the dispute over the proposal to build Echo Park dam in a national monument centered on how important the dam was to the entire project. Wilbur Dexheimer, Commissioner of Reclamation, stated during the House hearings that the deletion of Echo Park dam would not make CRSP infeasible, as was suggested during 1954. Rather, he said that elimination of the dam would only impair full development in the "upper reaches."[91]

Arguing that Echo Park dam was not uniquely valuable to development of the Upper Basin, David Brower of the Sierra Club combined his earlier suggestion of steam-generated power with a new plan for the entire Upper Basin. He said that no storage units should be built until they were absolutely essential for river regulation, which Brower asserted would save a tremendous amount of water that would be lost by evaporation if the storage units were built sooner. Brower indicated that the first unit that would be needed was Flaming Gorge, and he said it should be

built in 1987. Cross Mountain would be the next unit constructed, in 1994, followed by Dewey in 2003, and the last unit, Glen Canyon, would not be needed until the year 2550.[92] To finance the immediate construction of participating projects, Brower proposed a tax of 0.5 mill on all power sold in the Upper Basin in order to raise $4 million per year.[93]

Economics. The Department of the Interior prepared a table showing how CRSP would benefit every state in the union through expenditures for construction of the project.[94] Representative Hosmer (California) introduced a table showing the contribution of each state to cover the interest "subsidy" in loans for irrigation.[95]

Opposition by California. Witnesses from California testified that during the 20-year period of impounding water in the Upper Basin, the reduction in river flow would reduce the power output at Hoover Dam by 62.4 billion kilowatt-hours. Since power was sold at Hoover for as little as 2.1 mills, California would have to buy far more expensive power from alternate sources. The estimated projected loss was $187 million.[96]

John Bliss, State Engineer in New Mexico and State Commissioner on the Upper Colorado River Commission, presented a technical paper which concluded that no conceivable legal obligation under the 1922 Compact would be abrogated by any change of water quality caused by the projects in CRSP.[97]

Elmer Bennett, an attorney for the Department of the Interior, said no result from any litigation of Indian water rights could possibly affect CRSP. To support his position, Bennett asserted that 80 percent of all Indian irrigable land would be developed by the Navajo Indian Irrigation Project. He also suggested that estimates of the amount of water needed for Indian lands were misleading because they did not include the return flow to the river.[98]

Feasibility. The issue of the strength of the foundation rock at Glen Canyon was addressed by a geologist of the Department of the Interior who gave extensive testimony. He concluded that the rock was of sufficient strength with low enough permeability in the reservoir area to make Glen Canyon an excellent site for a dam.[99]

Atomic Energy. A co-sponsor of S. 500, Senator Barrett (Wyoming), testified before the House committee that atomic energy would not make obsolete the hydroelectric plants of CRSP. As evidence, he introduced a letter from the Atomic Energy Commission recommending the continued development of hydroelectric power.[100]

Representative Hosmer (California) inserted into the House hearings a statement on the potential use of atomic energy. The statement indicated that nuclear powerplants would soon produce electricity at a cost of 6.7 mills. Taking into account the sale of plutonium as a by-product, the cost could be reduced to as low as 0.013 mills, Hosmer said.[101]

Agricultural Needs. Department of Agriculture statistics were presented indicating that by 1975, the United States

would require 115 million additional acres of land under cultivation, and that existing unused arable land would account for only 71 million acres. These statistics were used to argue that CRSP would not create an agricultural surplus.[102]

Senate Debate

From April 14 to April 20, 1955, the Senate debated and voted on S. 500.

Conservation. In support of Echo Park dam, Senator Watkins (Utah) presented new material documenting that the dam site in Dinosaur National Monument was reserved for development. A letter from the Chairman of the Federal Power Commission was introduced; it indicated that power withdrawals throughout the Monument were still in effect.[103]

Richard Neuberger, elected to the Senate from Oregon in November of 1954,[104] led the fight against Echo Park dam. He offered an amendment to the Senate bill that would have deleted the dam,[105] but the amendment was defeated by a vote of 52 to 30.[106]

Economics. Senator Douglas (Illinois) suggested that CRSP was a financially unsound project. He stated that "the rest of the country is paying through the nose for the sixteen votes which the great Mountain States have in the United States Senate."[107] He also said that "the arid and semi-arid states enter into joint combinations with the states of the lower Mississippi in a process of rolling each other's logs."[108]

Agricultural Needs. Senator Anderson discussed at length the agricultural needs of the nation and concluded that the country would run out of surpluses by 1960.[109] Senator Douglas said he considered irrigation projects to feed cattle "about the most uneconomical use [of water] one could imagine."[110]

Senate Passage

The Senate passed S. 500 by a vote of 58 to 23.[111]

House Report

H.R. 3383 was reported out of the House Committee on Interior and Insular Affairs on July 8, 1955. It recommended that the Curecanti, Flaming Gorge, Navajo, and Glen Canyon water storage units be authorized. The report recommended nine participating projects; the San Juan-Chama and Navajo Indian Irrigation Projects were not included. No reference was made to Echo Park dam.[112]

Conservation

In July 1955, Fred Smith of the Council of Conservationists announced that deletion of Echo Park dam by the House committee was only a ruse by which proponents intended to have the bill passed by the House only to have Echo Park dam reinstated by the conference committee.[113]

Eighty-Fourth Congress, Second Session (1956)

Santa Fe Accord

The states of the Upper Basin reached agreement on January 5, 1956, on the division of revenue for participating projects. The agreement, known as the "Santa Fe Accord," provided that Colorado would receive 46 percent, Utah 21.5 percent, Wyoming 15.5 percent, and New Mexico 17 percent of the profits from the sale of

power to be applied to participating projects. In addition, it was determined that the Navajo Indian Irrigation Project would be non-reimbursable.[114]

Conservation

On January 23, 1956, Horace M. Albright of the Trustees for Conservation, Ira N. Gabrielson of the Citizens Committee on Natural Resources, and Howard Zahniser of the Council of Conservationists said they were withdrawing their opposition to CRSP, on condition that two amendments would be added to the bill. One amendment required that the Secretary of the Interior "shall take adequate measures to preclude impairment of the Rainbow Bridge National Monument," and the other amendment stipulated that, "It is the intention of Congress that no dam or reservoir constructed under the authorization of this act shall be within any national park or monument," a provision that would exclude Echo Park dam from CRSP. It was reported that similar letters were received from other conservation groups.[115]

New Bills Introduced

Representative Aspinall introduced H.R. 9122 and Representative Dawson introduced H.R. 9123 on February 7. These bills were essentially the same as the bill reported out of the House Committee in 1955, except that the new bills incorporated the Santa Fe Accord and the agreement with the conservationists.[116]

On February 14, after what was reported to be a two-hour meeting,[117] the House Committee on Interior and Insular Affairs issued a supplemental report recommending that a substitute bill which included the new agreements be passed.

Feasibility

In January 1956, Representative Hosmer announced that he and two consulting geologists had collected Chinle shale during an expedition to the site of the reservoir at Glen Canyon. Hosmer claimed the shale would disintegrate and would partially or completely fill the reservoir when the rock was brought in contact with water.[118]

House Debate

On February 28, 29, and March 1, 1956, the House of Representatives debated H.R. 3383.

Feasibility. Congressman Haley (Florida) dropped a chunk of Chinle shale from the Glen Canyon Dam site into a glass of water and the rock disintegrated.[119] Congressman Udall (Arizona), a supporter of CRSP, countered by dropping a different sample of Chinle in the water and announced that when he was finished speaking he would drink the glass of water. Presumably, the rock did not disintegrate.[120]

California Opposition. Representative Hosmer (California) reviewed what he asserted were legal disputes that should be resolved prior to authorization of CRSP.[121]

Amendments. Representative Saylor (Pennsylvania) offered an amendment that would have limited the scope of the Project. His amendment provided authorization only for Glen Canyon Dam, which was to be non-reimbursable. All power revenue would be divided among the Upper Basin states to use as they saw fit for

participating projects. The amendment was defeated.[122]

An amendment offered by Representative Avery (Kansas) was adopted. It prohibited the growing of surplus crops on lands irrigated by CRSP for ten years after CRSP was enacted. Avery had voiced concern that surplus crops grown on CRSP-irrigated land would be in competition with crops from the Midwest.[123]

House Passage

Support for CRSP was given by the leadership on both sides of the aisle.[124] H.R. 3383 was passed by the House of Representatives, 256 to 136.[125]

Conference Report

On March 28, 1956, the conference report was presented to the House and Senate. The provisions of the House bill were left intact, except that the Senate's repayment plan was adopted.[126] On the same day, both the Senate and House agreed to the conference report.

Enactment

CRSPA was enacted on April 11, 1956, when President Eisenhower signed the legislation.

CONCLUSION

In summary, five general themes appear in the legislative history: (1) the developmental needs of the Upper Basin; (2) the legal constraints of the 1922 Colorado River Compact; (3) the economic wisdom of CRSP; (4) the conservation value of Dinosaur National Monument; and (5) the engineering feasibility and geological effects of the Project. An abbreviated list of other concerns would include agricultural surpluses, the potential of atomic energy, civil defense mobilization, effects on Hoover Dam, and weather modification.

Since the 1956 enactment of CRSPA, the Upper Basin coalition has worked with varying degrees of effectiveness to obtain funds for completion of authorized projects and to gain additional participating projects (Figure 1). CRSP continues to be a system influenced by a seasoned network of legal-institutional constraints and incentives.

FOOTNOTES

[Ed. Note] The form of citing most of the legal references in the following footnotes may be found in A Uniform System of Citation published by the Harvard Law Review Association, Cambridge, Massachusetts (1967). Explanations of the abbreviations follow:

43 U.S.C. §620-620o = Title 43, United States Code, Sections 620 through 620o

Arizona v. California, 283 U.S. 423 = the case of Arizona versus California, Volume 283, United States Reports, page 423

Stan L. Rev. = Stanford Law Review

supra = refers to source referenced previously in this list

Id. = refers to the source referenced immediately preceding this footnote

59 Stat. 1219, T.S. No. 99 = Volume 59, Statutes-at-Large, page 1219, Treaty Series Number 99

H.R. Doc. No. 364, 83d Cong., 2d Sess. 323 (1954) = House of Representatives Document Number 364, 83rd Congress, Second Session, on page 323

H.R. 4443 = House of Representatives Bill Number 4443

99 Cong. Rec. 2665 = Congressional Record, Volume 99, page 2665

S. 1555 = Senate Bill Number 1555

at 2-4 = on pages 2 through 4

S. Rep. = Senate Report

1. Act of April 11, 1956, 70 Stat. 105; Act of June 13, 1962, 76 Stat. 96; Act of June 13, 1964, 78 Stat. 852; Act of September 30, 1968, 82 Stat. 885; 43 U.S.C. §§620-620o.

2. Act of December 21, 1928, 45 Stat. 1057; 43 U.S.C. §§617-617v.

3. Act of July 19, 1940, 54 Stat. 774; 43 U.S.C. §618.

4. Act of September 30, 1968, 82 Stat. 885; 43 U.S.C. §§616aa-1, and 620.

5. Arizona v. California, 283 U.S. 423 (1931);
Arizona v. California, 292 U.S. 341 (1934);
Arizona v. California, 298 U.S. 558 (1936);
Arizona v. California, 373 U.S. 546 (1963);
United States v. Arizona, 295 U.S. 174 (1935).
See history of controversy between Arizona and California in Meyers, "The Colorado River," 19 Stan. L. Rev. 1, 38-43 (1966)

6. Colorado River, H.R. Doc. No. 419, 80th Cong., 1st Sess. 56-57. See description of Upper Basin in Meyers, "The Colorado River," 19 Stan. L. Rev. 1, 2-7 (1966).

7. Id. at 57. The Upper Basin reportedly had 1,450,000 acres irrigated, and 2,750,000 irrigable acres; the respective figures for the Lower Basin were 950,000 and 1,350,000.

8. See Wyoming v. Colorado, 259 U.S. 419 (1922).

9. Colorado River Compact, Art. III (a) and (d).

10. Id. at III(c). See Meyers, supra note 5, at 15-17; also, Water and Choice in the Colorado Basin 24 (1968).

11. The negotiators were in disagreement over whether the water supply was adequate. See Olson, The Colorado River Compact, Appendix II - Exhibit P (1926).

12. 45 Stat. 1057; 43 U.S.C. §§617-617v.

13. Breitenstein, "Memorandum on the Colorado River" (unpublished, August 3, 1947).

14. Section 15, 45 Stat. 1065.

15. Drainage Basin Committees' Report for the Colorado Basin 13-14 (1937).

16. Drainage Basin Problems and Programs 85-89 (1938).

17. See "Report and Proceedings of the Fact Finding Committee" Vols. I and II (mimeographed, 1938).

18. Sec. 2, 54 Stat. 774.

19. Breitenstein, supra note 13.

20. By Executive Order No. 9384 October 4, 1943) President Roosevelt required all executive departments to submit to the Bureau of the Budget, in advance, all Congress-destined reports relating to public works, "for advice as to its relationship to the program of the President." This involvement of the Bureau of the Budget in the relationship between the Secretary of the Interior and the Congressional Interior and Insular Affairs Committees was to have a bearing on the progress of legislation authorizing the Colorado River Storage Project and participating projects.

21. The Flood Control Act of 1944 (Sec. 1(c); 58 Stat. 887,889) provides that the Secretary of the Interior submit to affected states, for comment within 90 days, all plans, proposals and reports on works for irrigation, in advance of submitting same to Congress.

22. Treaty With Mexico Respecting Utilization of the Waters of the Colorado and Tijuana Rivers and of the Rio Grande, 59 Stat. 1219, T.S. No. 994 (effective November 8, 1945). See Meyers and Noble, "The Colorado River: The Treaty with Mexico," 19 Stan. L. Rev. 367 (1967).

23. Colorado River, supra note 6.

24. Id. at 5.

25. Act of April 6, 1949, 63 Stat. 31.

26. See generally, 1 Upper Colo. River Comm'n Ann. Rep. (1950).

27. Art. III

28. H.R. Doc. No. 364, 83d Cong., 2d Sess. 323 (1954).

29. Id. at 321.

30. Hearings on H.R. 4449, H.R. 4443, and H.R. 4463 before the Subcommittee on Irrigation and Reclamation of the House Committee on Interior and Insular Affairs, 83d Cong., 2d Sess., at 595 (1954) [hereinafter cited as 1954 House Hearings].

31. 99 Cong. Rec. 2665 (1953).

32. Id. at 2733.

33. Id. at 2734.

34. Id.

35. 1954 House Hearings, at 14.

36. Id. at 707.

37. Id. at 699.

38. Hearings on S. 1555 before the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs, 83d Cong., 2d Sess., at 286 (1954) [hereinafter cited as 1954 Senate Hearings].

39. 1954 House Hearings, at 700.

40. 1954 Senate Hearings, at 287.

41. 1954 House Hearings, at 701.

42. 1954 Senate Hearings, at 287.

43. 1954 House Hearings, at 704.

44. 1954 Senate Hearings, at 291.

45. 1954 House Hearings, at 704.

46. 1954 Senate Hearings, at 290.

47. 1954 House Hearings, at 24.

48. Id. at 71-22.

49. Id. at 795.

50. Id. at 717.

51. Id. at 304.

52. Id. at 578.

53. Id. at 224.

54. Id. at 178.

55. Id. at 512-13.

56. Id. at 656.

57. Id. at 134.

58. H.R. Doc. No. 364, 83d Cong., 2d Sess., at 2-4 (1954).

59. Id. at 9.

60. Id. at III, 2.

61. 100 Cong. Rec. 5910 (1954).

62. Id. at A4431.

63. H.R. Rep. No. 1774, 83d Cong., 2d. Sess. 1-2, 30-33 (1954).

64. 1954 Senate Hearings.

65. Id. at 48.

66. Id. at 72.

67. Id. at 485-486.

68. Id. at 507.

69. Id. at 527.

70. 100 Cong. Rec. 10877 (1954).

71. Id. at 15132.

72. Hearings on H.R. 270, H.R. 2836, H.R. 3383, H.R. 3384, and H.R. 4488 before the Subcommittee on Irrigation and Reclamation of the House Committee on Interior and Insular Affairs, 84th Cong., 1st Sess. 188 (1955) [hereinafter cited as 1955 House Hearings].

73. 101 Cong. Rec. A544 (1955).

74. Hearings on S. 500 before the Subcommittee on Irrigation and Reclamation of the Senate Committee on Interior and Insular Affairs, 84th Cong., 1st Sess. 249, 257 (1955) [hereinafter cited as 1955 Senate Hearings].

75. 101 Cong. Rec. 445 (1955).

76. Id. at 640.

77. Id. at 1090.

78. Id. at 2255.

79. 1955 Senate Hearings, at 433.

80. Id. at 108-9.

81. Id. at 18-20.

82. Id. at 660.

83. Id. at 599.

84. Id. at 589.

85. Id. at 244.

86. Id. at 272, 276.

87. Id. at 112.

88. Id. at 355.

89. Id. at 258, 280.

90. S. Rep. No. 128, 84th Cong., 1st Sess. (1955).

91. 1955 House Hearings, at 193.

92. Id. at 774.

93. Id. at 761.

94. Id. at 328-9.

95. Id.

96. Id. at 517.

97. Id. at 497-525.

98. Id. at 170.

99. Id. at 353-55.

100. Id. at 481-82.

101. Id. at 486, 943.

102. Id. at 560.

103. 101 Cong. Rec. 3817 (1955).

104. Id. at 4651.

105. Id. at 4799.

106. Id. at 4806.

107. Id. at 4640.

108. Id. at 4640.

109. Id. at 4643.

110. Id. at 4576.

111. Id. at 4813.

112. H.R. Rep. No. 1087, 84th Cong., 1st Sess. 8-11 (1955).

113. 101 Cong. Rec. A5499-A5500 (1955).

114. H.R. Rep. No. 1087, pt. 2, 84th Cong., 1st Sess. 8-13 (1956).

115. Id. at 7.

116. 102 Cong. Rec. 2270 (1956).

117. Id. at 2763.

118. Id. at 1599.

119. Id. at 3619.

120. Id. at 3736.

121. Id. at 3748.

122. Id. at 3745-46.

123. Id. at 3740.

124. Id. at 3468-69.

125. Id. at 3754.

126. Id. at 5765.

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PART II

THE POLITICS OF WATER RESOURCE DEVELOPMENT IN THE UPPER COLORADO RIVER BASIN

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THE POLITICS OF WATER RESOURCE DEVELOPMENT IN THE UPPER COLORADO RIVER BASIN

INTRODUCTION

The political boundaries of the Lake Powell region almost defy definition. While the hydrology of the lake is limited by the river system above the lake, and the ecology of the shoreline is necessarily restricted to the land surface immediately surrounding the lake, the political boundary most certainly includes people and institutions in state capitals throughout the Southwest and in Washington, D.C. And in a broader inquiry concerning decision-making with respect to the entire Colorado River system of which the Upper Basin is a part, the boundary may stretch as far as Mexico City as well.

Furthermore, in seeking systematic explanations of political events such as the decision to create Lake Powell with the passage of the Colorado River Storage Project Act, it must be recognized that the boundaries that presumably define the political system are highly permeable, i.e., they are highly responsive to both unique and general conditions that prevail in the surrounding political, economic, and social environments. Thus, for example, a general prevailing condition--low discount rates in evaluating benefits of water resource projects--may have facilitated the passage of the Act; similarly, a very specific circumstance (e.g., other legislators who wanted a St. Lawrence Seaway Project) may also have facilitated passage. While we may come to a more-or-less acceptable and accepted explanation of why events took place and results were achieved, we may find it extremely difficult to predict what the results might have been had these conditions been otherwise.

MODELS OF THE AMERICAN POLITICAL PROCESS

Despite these caveats about providing systematic explanations concerning political behavior, it is nevertheless possible to provide an explanation of the politics of Upper Colorado River Basin development as a manifestation of certain patterns of political behavior. These patterns are founded in the proposition that substantive policy is the crucial independent variable which largely determines the manner in which the actors and the political institutions of American society perform. That is to say, water resources policy issues have been handled in a distinctive way because of the expectations of the various actors about the rewards that come from water policy.

The politics of the Colorado River Storage Project Act clearly demonstrates the validity of a paradigm of American politics first posited by Theodore Lowi. This paradigm distinguishes among *distributive, regulatory, and redistributive* politics.[1] In its classical form, *distributive* politics involves a process of coalition-building among local interests hoping to achieve some benefit from the public treasury. These local interests strive to achieve unity on a basic legislative proposal by a process of bargaining and accommodation, thus removing any sources of conflict that will provide opportunities for resistance at the higher levels of government. This coalition then

seeks to achieve its policy goals by extending its bargaining effort outside the parameters of its own adherents by a process familiarly known as "log-rolling." The legislative output takes the form of financial support for projects of interest to the various localities. There is very little in the way of "policy" as an outcome since each locality receives a benefit that is peculiar to itself. The form of politics is further characterized by the relative lack of confrontation between those who gain and those who lose as a result of the adoption of the proposal. The taxpayers, who must pay the bill, seldom have an effective voice in the political bargaining. The principal actors in this political process tend to be local and state interests and public agencies, federal bureaus, and committees of Congress.

Regulatory politics take on quite different characteristics. The battles in regulatory politics tend to concern sectoral interests which might be and usually are economic, but they may be aesthetic, religious, or fraternal. The battles tend to be fought by national associations, and the issue is public policy as well as specific project elements. The struggle is more open because the winners and the losers are more obvious. The implications for both producer and consumer cannot be so easily hidden and the spokesmen for each endeavor attempt to broaden the conflict in order to obtain allies. Principal actors, in addition to the national associations, are major federal agencies, the two houses of Congress rather than their committees, and occasionally the President. The resolution of the conflict, after intense bargaining, may take the form of a victory for one side or the other or some form of compromise. The output of this process is a policy which states the terms of the bargain achieved and provides the baseline for future political combat.

The third form of politics is *redistributive* and concerns shifts in the general incidence of benefits and burdens in society. The subjects for redistributive politics tend to concern levels and rates of taxation, tariffs, levels of public spending, and welfare programs. Principal participants in this process tend to be the President and both houses of Congress, the Office of Management and Budget, and major associations such as the trade union federations and the national Chamber of Commerce. It must be recognized that all forms of politics have redistributive *effects*, but in redistributive politics the principal focus of conflict concerns deliberate efforts to achieve redistribution of the goods and services of society.

THE COLORADO RIVER STORAGE PROJECT

The politics of the Colorado River Storage Project involve both distributive and regulatory politics. It is clear that the proponents of the Project desired above all else to have the Project considered within the distributive framework because that framework provided the maximum political leverage through the relatively unchallenged and unnoticed accommodations that have traditionally characterized water politics in the United States. On the other hand, the inclusion of a project to construct a dam at Echo Park, within the Dinosaur National Monument, led to a prolonged and highly

visible political battle in which the proponents found that they no longer had the necessary political resources with which to achieve an accommodation.[2]

Historical Context

The Upper Basin states, at the conclusion of World War II, were anxious to exercise their claims upon the waters of the Colorado River system. They had obtained what was in effect a promissory note for development in the Colorado River Compact of 1922 which was finally implemented through the Boulder Canyon Project Act of 1928.[3] This promissory note reserved to the Upper Basin an average annual flow of 7.5 million acre-feet of water from the Colorado River. The Upper Basin had been growing more slowly than had Southern California, and this agreement therefore provided a guarantee against almost complete appropriation by California of the river system's water under the law of prior appropriation.

The Bureau of Reclamation provided the impetus for serious consideration of Upper Basin development projects when in 1946 it published its study of The Colorado River.[4] This study catalogued possible development projects and made it clear that there was not enough water to make all the projects feasible. Moreover, the report made explicit the premise that no projects would be developed in the Upper Basin unless the states of the Upper Basin achieved an agreement concerning utilization of the waters of the Colorado River in the Upper Basin.

Upper Basin Bargaining

Thus, the opportunities and the impediment contained in the Bureau of Reclamation's report were powerful stimuli to action in the Upper Basin. This action took the form of creating an Upper Colorado Compact Commission for purposes of writing an interstate compact. Over a period of two years the commissioners engaged in intensive discussion and negotiation over different approaches to the allocation problem. The Bureau of Reclamation was available to provide technical assistance as well as policy advice.[5]

Negotiations centered on the allocation of water but also on the implications of reserved Indian rights and the specific manner in which each state's interest might be realized. Colorado was especially torn: it wanted very much to get Upper Basin projects authorized and was therefore willing to be flexible, but it also felt that it deserved a large proportion of the water since it produced about 70 percent of the water. The formula the negotiators arrived at in allocating Upper Basin water was the following: Colorado, 51.75 percent; Utah, 23 percent; New Mexico, 11.25 percent; and Wyoming, 14 percent. Of particular importance was the issue of water for the Central Utah Project. Having serious questions about the availability of water of adequate quality from the Green River, Utah demanded and received rights to 500,000 acre-feet annually from the Yampa River in Colorado. For this water to be effectively used in Utah, a dam at Echo Park would be necessary. Thus, the proposed Echo Park proposal became, in effect, a part of the Compact. Since Indian rights were unquantified, and no one was prepared to quantify them, it was impossible to allocate those rights.

Agreement on the Compact was obtained without difficulty from the legislatures of the four compacting states, and thus the way was cleared for development of a

project proposal by the Bureau of Reclamation. The Bureau endeavored to work very closely with the water development agencies of each of the four states and with the Compact-created Upper Colorado River Commission. In fact, the states for the most part established their priorities with respect to projects, and the Bureau endeavored to develop a plan which would accommodate their preferences. As expressed by a Bureau official at a meeting of the Commission,

> After all, the Bureau is in the position of asking you states to help us. Sometimes we admit we are (not?) all-powerful, but down deep in our hearts we know we are not all-wise, either. We want your recommendations. (To the New Mexico representative) If you think Martinez should be there, don't be bashful.[6]

Bashful they were not, but their assertiveness depended very much on their ability to reconcile sometimes serious differences within their own states. It was one thing to obtain agreement on general outlines of water allocations among states, particularly for the purpose of getting federal support, but it was quite another thing to obtain agreement on within-state allocations of those waters. Trans-Basin diversions provided a principal focus for these conflicts. In Utah, the controversy concerned diversions from the Green River system to central Utah and the impact of such diversions on irrigation development in the eastern portion of the state. In Colorado, the conflict concerned the interest of the city of Denver in obtaining an additional supply of water from the Blue River in the Colorado River system, controversy over the Fryingpan-Arkansas Project, and disputes over the location and size of a dam and reservoir on the Gunnison River--the Curecanti unit. In New Mexico, the debate concerned the proposed diversion of water from the San Juan River to the Rio Grande system for purposes of supplying developing municipal and industrial interests in Albuquerque. Resolution of these conflicts was imperative if Upper Basin interests were to obtain consideration of their basic proposal for Basin-wide development. Congress, and particularly the House Interior and Insular Affairs Committee, took a dim view of projects on which local support was not close to unanimous. Governor Thornton of Colorado put it this way:

> Thus, we are at the crossroads. Is Colorado to act as a unit in supporting a program which will be fair and equitable to all areas in the State, or is Colorado to have dissension with each region seeking only that which appears to favor it the most... Our future is at stake. I have great fear as to our success in securing any one of these projects which I have mentioned in the event there is substantial opposition from within Colorado.[7]

In the short space provided here, it is impossible to provide a detailed history of the specific compromises reached within each state. There was intense bargaining in each state and among the states with the Bureau of Reclamation nurturing agreement by fact-gathering and analysis that made agreements possible. The concerns of eastern Utah were met by the agreement on the waters of the Yampa. The debates within Colorado continued for several years, resulting in (1) a court suit, the result of which was ultimately recognized by Congress, allowing Denver to obtain a quantity of water from the Blue River; (2) a decade-long controversy within Colorado and in Congress over Fryingpan-Arkansas with its ultimate approval in 1962; (3) reduction in size of the Curecanti unit and recalculation of the benefit-cost ratio to make it a feasible

project for inclusion in the Colorado River Storage Project; and (4) a sharing-of-shortages formula in New Mexico which gave recognition to the in-Basin and out-of-Basin interests in the waters of the San Juan River. None of these agreements was easily reached, and some of them were still being negotiated when Congress took up the Storage Project in 1954.

The Conflict Over Echo Park

Inclusion of the proposed dam at Echo Park made a major struggle with conservationist groups inevitable. However much the Upper Basin spokesmen might insist that Echo Park was the "piston" that drove the engine of the Project, however much they might argue that Echo Park was the most economical both from a monetary and and evaporation standpoint, however much they might argue about its positive benefits for recreation and fishing, the conservationists would have none of it. This was regulatory politics in its classic mold: two major combatants linked in combat with little or no possibility of compromise on the principal issue or of disaggregating the benefits. The major conservation organizations took up the invasion of Dinosaur National Monument as an attempt to violate holy ground and, while they might register scepticism concerning the economic feasibility of the project, their outright opposition and national campaign was aimed at total elimination of any works of man in the Monument.

It was not as though no effort was made to find some way out. When the first outlines of the proposed project became known in 1949, both the proponents and the conservationists saw the conflict coming. By 1950 it had resulted in a formal hearing conducted by the Secretary of the Interior.[8] Secretary Oscar Chapman, a highly political official who liked compromises and not battles, temporized, vacillated, seemingly reversed himself, and finally got out of the controversy by getting out of his job when the Eisenhower Administration took office in 1953. Meanwhile, delegations from the Upper Basin states and members of Congress from that region kept up a drum beat of public and private pressure on both the Department of the Interior and the Bureau of Reclamation to move the project onto the legislative calendar. It was only after a new leadership group entered the Department of the Interior and the Under Secretary of the Interior made a specific study of the Echo Park question that the Administration became fully committed to that project and supported its inclusion in legislation introduced into Congress.

The intensity of the opposition by the conservationists reflected their protective concern for Echo Park but it also reflected their concern for the sanctity of national parks. The invasion of the Monument, if successful, was considered a harbinger of future invasions when the magical goal of economic development was used as justification. The specter of Hetch Hetchy Reservoir in California was trotted out regularly as a horrible example of what might happen. The battle to save Echo Park became the struggle of the generation to save a part of America's hallowed heritage.

Opposition on Other Grounds

Leaving the Echo Park controversy aside, the Upper Basin storage project as a system of storage and power dams, combined with a series of irrigation projects in the Upper Basin, encountered little or no opposition. The opposition it did

receive came primarily from California and on quite other grounds. One might have expected a project costing inevitably well over $1 billion to encounter some very heavy weather simply because of its fiscal impact and the amounts of subsidy required. quired. Certainly there were those who raised those questions, most notably Raymond Moley, a widely read nationally syndicated columnist in the popular press, but it cannot be said that the project was seriously in danger at any time because of its economic features. The issues were there--interest-free money, low interest rates in calculating costs and benefits, use of power revenues to subsidize irrigation projects that could not possibly sustain themselves without a subsidy, questionable benefit-cost ratios, long pay-out periods, opportunity costs in using the money for this type of investment, value of the land after development, costs per acre for development--and although questions were raised, few appeared to take the issues seriously as the bases on which a decision should be made. The only spirited attack on the economics of the Project was made by Senator Paul Douglas in floor debate, and it appears that the effect was negligible.[9]

The reason seems clear: irrigation projects financed by federal funds were part of the "expected" or "accepted" output of the political system. As other areas received assistance in the development of inland waterways, or in agricultural subsidies, or in military bases and defense contracts, the West received its due in the form of irrigation projects. In addition, there remained an aura about irrigation as an almost mystical technological and sociological process that led to economic development, to the opening up of the frontier, and to further opportunities for the small farmer. Finally, it may be argued that water projects in general, whether in the West or the East, have been a type of common currency in politics. Support for water projects in one area would be traded for support for water projects in another area. Or they could be traded for votes on issues wholly unrelated to water projects. Thus, an attack on these projects invited an attack on all of them, and such a battle was to be avoided at all costs.

Southern California interests and members of Congress from Southern California were dedicated opponents of the Storage Project. Their opposition was clearly self-interested, and the stubbornness of their opposition may have been too extreme to have much credibility. Moreover, they were fighting against a sense of equity for the various parts of the Colorado Basin. There was strong feeling in the Upper Basin that Southern California had profited enormously from federal assistance in the construction of Hoover Dam and that it was now the Upper Basin's "turn." Whatever the justice or the merits of the position from which Southern California argued, its principal goal was to buy time. Every year that they could delay the development of the Project was an additional year that Southern California interests could enjoy the benefits of waters that were arguably legally the entitlement of the Upper Basin States.

The legal claims of California were numerous and will not be treated in detail here. They were being fought out in the courts in the case then pending before the Supreme Court in Arizona v. California. The issues concerned both the interpretation of the Colorado River Compact and the significance of contracts entered into by the Secretary of the Interior with the Metropolitan Water District of Southern

California and with other public agencies for the delivery of water. Representatives from Southern California argued that Congress should make no decisions on questionable legal assumptions regarding entitlements to water. The arguments fell substantially on deaf ears because the Upper Basin could demonstrate rather convincingly that the Storage Project being considered by Congress could not possibly interfere with established California rights even with their most expansive definition. The ultimate resolution of this legal battle came in the 1963 decision of the Supreme Court in which it generally found against California and imposed more severe limits on its use of Colorado River water.[10]

The Role of Presidents

Presidents often do not play important roles in water-resource-development policy, partially because they have other duties of higher priority, but often because they recognize that if they are opposed to a given project or set of projects, their opposition may be overridden by a Congress and nominally subordinate agencies that guard jealously this realm of so-called "pork." As Harold Ickes so characteristically expressed it with regard to the Army Corps of Engineers, it is "mutiny for the bounty."[11] It may be noted that among the very few presidential vetoes overriden by Congress in the last two decades, a substantial number have been on water project bills.

On the other hand, if the President favors a project, his support may be very influential indeed. President Truman appears to have favored Upper Basin development, although his interest appeared to correspond with pressures brought on him by Upper Basin members of Congress who wanted support for the project as a means of bolstering their re-election campaigns. He did not appear to impose much pressure on Secretary Chapman nor did he do much to restrain the Bureau of the Budget in its efforts to impose greater economic rationality in the evaluation of the project proposals. And in the election campaign of 1952, he implied that all dam-building and power and reclamation projects would come to an end if a Republican Administration came to power.[12]

President Eisenhower, on the other hand, gave strong support to the Upper Basin project. The reasons for this support are not entirely clear but a number of explanations seem reasonable. One is that he simply shared the ethic of water resource development, perhaps gained in his early life in Kansas. Another is that he recognized the political importance of the Rocky Mountain states and the power they represented in Congress in such men as Millikin, Johnson, and Aspinall of Colorado, Anderson and Chavez of New Mexico, and Watkins and Bennett of Utah. The Democrats plus Millikin were men of vast experience and influence in the Senate and House, and the new Republicans were men upon whom Eisenhower would have to depend in getting his legislative program passed. Cementing this support, although probably not instrumental in obtaining it, was Senator Watkins' role in carrying the President's successful immigration legislation through the Senate and in helping to dispose of the problem of Senator Joseph McCarthy through the censure recommendation that came out of his select committee.

Whatever the reasons, President Eisenhower removed the roadblock in the Bureau of the Budget and gave firm administrative support at crucial stages in the

legislative process. Notable in this regard was his inclusion of a statement urging passage of the project legislation in early 1956 as a part of his announcement that he would run for a second term.

The Role of Congress

The structure of Congress was receptive to presidential support. The Interior Committees of each house were and are today primarily Western committees: the Senate Committee almost exclusively so. Approval in the Senate was almost a certainty because of the bias of representation for the West in that body and the stature of the Western members. Approval in the House was more problematical both because the House Committee was torn by conflicts and also because the House is less responsive to a single geographical interest than is the Senate. On the House Committee were powerful spokesmen for the opposition: Saylor of Pennsylvania, who took up the conservationist cause, and Hosmer of California, who promoted the interests of California.

The importance of Saylor and Hosmer, particularly the former, lay in their ability to articulate for the other members of the House the concerns they had about the legislation being considered. Moreover, Saylor worked very carefully with the conservationists in their movement to broaden the arena of conflict beyond the ordinarily quiet recesses of the House Interior Committee. Thus, at crucial times it became painfully apparent to the proponents that the Upper Colorado Storage Project bill would not pass the House of Representatives with provision for a dam at Echo Park in it. The Committee was therefore faced with the options of (1) removing Echo Park from the bill in Committee and thus facilitate its passage by the House, (2) reporting it with Echo Park and have it stricken on the floor, or (3) seeing the entire bill go down in defeat.

Consideration in Congress

The fragile agreement put together by the Bureau of Reclamation and the Upper Basin states called for the authorization of two major power and storage dams--Glen Canyon and Echo Park--and authorization of 12 irrigation projects which were called participating projects.[13] Glen Canyon Dam was the so-called "cash register" of the entire project in that it would produce the greatest proportion of revenue, a considerable portion of which would be used to pay off the costs of the irrigation projects. The latter, taken together, would pay only approximately 12 percent of the costs of their development. Thus, the purchasers of power would subsidize the irrigation projects. Of the 12 participating projects, the largest by far was the Central Utah Project which would require 74 percent of the funds authorized for irrigation projects. Water would be supplied to 143,360 acres of new land and as a supplement to 242,930 acres.

That none of the proponents was entirely "sold" on the Administration's proposal is indicated by the introduction, with Upper Colorado River Basin support, of legislation that would have authorized several more dams and irrigation projects.[14] Altogether, the Bureau had identified ten power dams in the Upper Basin, and there was a host of other potential irrigation sites that would have to be developed later.

In 1954 and 1955 lengthy hearings were held on the various legislative proposals.[15] Extensive testimony was taken from the proponents; some Upper Basin people who remained unreconciled with the original proposal; conservationists; spokesmen for California; and even a critic from the Hoover Commission who questioned the economics of the Project. It cannot be said that many minds were changed in the process, although the ranking Democrat on the House Interior Committee, Clair Engle, finally did become a convert. One suspects his conversion was in part a willingness to see the Upper Basin use its water as it saw fit, but in larger part a reflection of the fact that he was interested in getting votes for the Trinity Project in Northern California.

Evidence obtained from those participating in the legislative phase of the effort to pass the Storage Act indicates that an intensive and extensive propaganda and lobbying campaign was made to gain its passage. The effort was coordinated through the Upper Colorado River Commission with Ival Goslin, its Executive Secretary, serving as the chief of staff and working under the direction of Congressman Wayne Aspinall and a small committee of Upper Basin legislators.

Within Congress, it appears that key legislators such as Dennis Chavez, a power on the Senate Appropriations Committee, used their muscle to get favorable votes. By reminders of past favors and future needs, they were able to convince otherwise neutral or perhaps mildly negative colleagues of the merits of the Project. It is difficult to say how many votes were won in this way, but it is clear that the Upper Basin interests found this legislation of such vital importance that they spent profligately their political capital to obtain a favorable result.

Similarly, outside of Congress, individuals from the Upper Basin who had contacts with political and economic interests outside the Basin were asked to intervene in behalf of the Project. Delegations were sent on forays into other parts of the country in search of constituencies who could influence their legislators. Again, the results of such tactics are uncertain, but the proponents were convinced both of the necessity of trying and of marginal success of their efforts.

Continuing Internal Dissent

While the major focus of conflict was the controversy over Echo Park, continuing dissatisfaction in Colorado provoked a serious rupture in the united front the Upper Basin was striving to maintain. Former Senator and then Governor "Big Ed" Johnson vigorously attacked the Administration bill for its failure to give Colorado its due in terms of projects and expenditures.[16] He found the building of Glen Canyon Dam of little benefit to Colorado since it supplied no water and little revenue for Colorado's few projects. He insisted that serious consideration be given to the inclusion of a long list of projects that he believed justified authorization. The fact that these projects had not been adequately investigated by the Bureau of Reclamation only increased the sense of outrage that he and his fellow Coloradans felt at the way they were being treated in the legislation before Congress. He argued that Colorado might be better off seeking authorization for individual projects, rather than participating in an inequitable Basin-wide arrangement.

It may well be that Governor Johnson's well-advertised attack on the Administration's proposal was little more than a ploy to dramatize Colorado's long-term interest in getting additional funding. Certainly he was bought off rather inexpensively through the device of adding a large number of priority planning projects to the legislation.[17] These were nothing more than statements in the legislation that the projects--then little more than a gleam in someone's eye--should be given priority in future investigations.

But this mild protest took on more serious proportions toward the end of 1955 when it appeared that final passage was in the offing. Governor Johnson then contended that the power revenues derived from the Project should be distributed in each state in accordance with a formula based on the allocations of water under the Colorado River Compact. Since Colorado received 51 percent of the water, he maintained that Colorado should get 51 percent of the funds. This position clearly threatened to wreck the entire Basin project, since there would not be enough money left over to finance projects in other states. This was a particular threat to New Mexico and the Navajo Project, both of which would take a very sizable amount of Colorado River Storage Project revenue. There ensued an intense period of negotiation in which Ival Goslin, the Executive Secretary of the Upper Colorado River Commission, played a crucial role, the result of which was an agreement in Santa Fe, New Mexico, on the part of the four Upper Basin states that the power revenues would be distributed according to the following formula: Colorado, 46 percent; Utah, 21.5 percent; New Mexico, 17 percent; and Wyoming, 15.5 percent. And by an exceptional maneuver, the cost of Navajo Dam was made completely non-reimbursable, i.e., a charge completely on the federal treasury. These Santa Fe accords demonstrated the intensity of the feeling that some accommodation had to be made in the quest for a project and the fundamentally bargaining nature of the political system by which such accommodations are achieved.

The Price Tag

One of the concerns of the proponents was that the price tag of the Project would scare away many potential supporters. Some early versions of the Project legislation clearly carried a billion-dollar-plus price tag, and opponents such as Senator Paul Douglas made much of this allegedly exorbitant cost.[18] One way to avoid such a high figure was to exclude participating projects and storage and power dams that would run up the cost. Another way was simply to pare down the authorized expenditure figure, counting on the fact that later Congresses would feel compelled to increase the authorization. The Administration had recommended a bill which would authorize an expenditure of $950 million.[19] The figure finally arrived at, in the last instance by simply reducing by 10 percent the estimated cost and not including funds for Curecanti Unit, was $760 million.

The Elimination of Echo Park and Final Passage of the Bill

The principal stumbling block--Echo Park--impeded action in the House of Representatives for two full years. In 1954, the House Interior Committee reported a bill with Echo Park in it by a vote of 13 to 12, but the bill died in the House Rules Committee because Interior Committee sponsors recognized that it was unlikely to pass if it came up for debate. The Senate, after its Interior Committee had

reported a bill by a margin of 13 to 1, simply deferred further consideration in view of the House difficulties. In 1955, the Senate passed the bill by a vote of 58 to 30, after defeating an amendment to delete Echo Park by a vote of 52 to 30.[20] In the House of Representatives, the Committee remained in serious conflict. The deadlock was broken when Congressman Wayne Aspinall, upon being advised by Ival Goslin that no bill with a provision for Echo Park in it would pass the House, moved its deletion. This was approved by a vote of 14 to 8 in the Subcommittee and was ratified by the full Committee. Once again the bill was before the House Rules Committee, but again debate was postponed because of uncertainties regarding the revenue-allocation formula noted above and because of conservationists' concern that any decision to delete provision for Echo Park in the House might be reversed in the process of negotiation with the Senate in the conference committee.

The conservationists remained intransigent on Echo Park and it was the proponents who finally gave way. Leading figures in the Upper Basin--senators, members of the House, governors, and members of the Upper Colorado River Commission--met in Denver, Colorado, in November 1955. Greeting them that fall day was a full-page advertisement in the Denver Post paid for by the Council of Conservationists who had conducted an effective national lobbying and advertising campaign against the bill with Echo Park in it.[21] The advertisement stated, "May we have it clearly understood, once and for all that the conservationists who have been leading this battle are NOT anti-reclamationists, and are NOT fighting the principle of water use in the West?" The conservationists then pointed out the economic weaknesses of the project bill and implicitly threatened to broaden their attack if their demands that Echo Park be deleted were not heeded.

The supporters at last realized what Congressman Aspinall had long recognized: that Echo Park was dead. They agreed to its permanent deletion and also approved language that would protect Rainbow Bridge National Monument and would prevent authorization of any project that would invade a national park or monument. In an exchange of correspondence between the Council of Conservationists and Senator Clinton Anderson, the agreement was made firm and the Council complimented the Upper Basin proponents upon the adoption of the broader protective language.

With these compromises achieved, the final resolution of the conflict was no longer seriously in doubt. There remained irreconcilables from California and those who disliked supporting irrigation agriculture with public subsidies, but they were insufficient in number to constitute a substantial challenge. Legislative leadership of both parties gave their support to the modified bill, and it passed the House of Representatives on March 1, 1956, by a margin of 256 to 136. Differences of a rather substantial nature were subsequently resolved by a conference committee, and the conference report was approved by both houses on March 28 and was signed by President Eisenhower on April 11, 1956.

SUBSEQUENT LEGISLATIVE ACTION

As controversial as the Colorado River Storage Project was, upon passage of the bill which created it, the Project quickly became settled policy, and it moved forward rapidly into the detailed planning and construction phase. By 1963,

Lake Powell was completed, and in September 1964, upon reaching an adequate storage level, it began producing power and power revenue for the remainder of the Project elements. Progress on other participating projects also took place. Flaming Gorge was completed somewhat earlier and produced its first power in November 1963.

Without conservation or environmental issues to catalyze opposition to water development, the legislation proposed subsequent to the passage of the Colorado River Storage Project Act passed with almost no opposition. The accepted ethic of water development and federal financial support for it in the West dominated the proceedings so that opposition was effectively muted. In the case of water development for the Indians, there was recognized a special obligation to contribute to their economic well-being by federal funding which, at the same time, continued to preserve precious Upper Basin development funds for projects in non-Indian areas.

San Juan-Chama and Navajo Projects

State and local groups that had not obtained authorization of their projects in the original legislation continued to press their claims for consideration on the Bureau of Reclamation and on Congress. In 1962, the long negotiations over the waters of the San Juan River bore fruit with the passage of legislation authorizing over $220 million for the construction of the Navajo Indian Irrigation Project and the San Juan-Chama diversion project.[22] The $135 million for the Navajo Indian Irrigation Project would be non-reimbursable to the federal treasury, while the $85 million for the San Juan-Chama Project would be largely reimbursable from municipal and industrial users. Whatever opposition remained after interbasin conflicts had been resolved within New Mexico had principally to do with the economics of the projects, but this opposition was relatively mild, and final passage in each house was by a voice vote.[23]

Fryingpan-Arkansas

Eastern-slope interests in Colorado continued to seek passage of the Fryingpan-Arkansas Project which would bring Colorado River system water into the Arkansas River system. Since the Fryingpan River is a tributary of the Colorado River, transmountain diversions raised issues for western-slope interests and for interests as far removed as California, because of the increasing burden being placed on the quantities of allocated water in the Colorado River and because of the threats to water quality. Nevertheless, by 1962 the legislation was passed, essentially because the eastern- and western-slope interests were able to resolve their differences by means of a "sweetener," to use Congressman Hosmer's term, for western-slope interests in the form of authorization of Ruedi Dam and the prospect of developing an irrigation project at Basalt. Moreover, strong Republican states in the West overcame conservative opposition. Congressional Quarterly reported that when the House Rules Committee first considered the bill, it was rejected by a vote of 6 to 8, with the Republican members voting solidly against it. But when Republican incumbents (from the western states), western Republican candidates for the Congress, and western Republican governors brought pressure on the Republican leadership, the five negative Republican votes on the Rules Committee switched to "yea."[24] Once this sweetener was agreed upon, the Project was approved in both houses by voice votes.[25]

Three Colorado Projects

In 1964, three additional projects were brought before Congress: the Savery-Pot Hook, Bostwick Park, and Fruitland Mesa Projects. The first is located at the Colorado-Wyoming border and the other two are in Colorado. The hearings reveal virtually no opposition to the projects except an occasional reference to the costs and the benefits forthcoming. Those opposed to the economic features of the projects probably sympathized with an expression of Representative James Haley of Florida who, at one point in the hearings on these projects, stated:

> Mr. Chairman, I see no use of continuing these hearings. Apparently any information or data that you might gather here is just a waste of time; and we can save the reporter's time and go on with some other project, and let them vote them all out and make no record. The committee has made up its mind and it is a useless gesture here in going through it.[26]

These projects passed both houses of Congress by voice votes and with very little vocal opposition.[27]

Colorado Basin Project Act

Upper Basin interests were also deeply involved in the major water resource controversy of the 1960's: the battle over the Central Arizona Project (CAP). In general terms, it may be said that the Upper Basin states supported Arizona in its quest for authorization of CAP. Arizona had long given its aid to the Upper Basin states, and the latter's support was expected payment on a debt.

The focus of this legislation was on proposed dams above and below the Grand Canyon. These dams were to provide the revenue to finance CAP and the power to pump the water into the Central Arizona area. The conservationists, as with Echo Park, would have none of either dam. Marble Canyon Dam would reduce substantially the flow of the Colorado River within the Grand Canyon, and thus it would reduce the quality of the experience in seeing the agent that created the Grand Canyon. Bridge Canyon Dam would back water up through Grand Canyon National Monument and into Grand Canyon National Park.

While this battle was being fought vigorously both in Congress and in the national media, and while various compromises were being struck which would permit the authorization of CAP, Upper Basin legislators were quietly obtaining additional projects for themselves. It appeared that the price of support of CAP on the part of powerful legislators, such as Wayne Aspinall and Clinton Anderson, was approval of the projects they were sponsoring.[28] Colorado obtained authorization of five projects, some of which had not even been approved by the Bureau of the Budget: authorization was obtained for Hooker Dam in New Mexico; and, in Utah, conditional authorization for another unit of the Central Utah Project and reauthorization (with more money) for the Dixie Project in the Lower Basin. It may be recalled how grievously wounded Colorado felt in getting so few projects out of the original Colorado River Storage Project. As described by a contemporary observer, it was literally, "You vote for my project and I'll vote for yours."[29] And as Helen Ingram wrote in describing this legislative battle, no questions of principle--such as priorities, costs, direction of development--could be raised, because

"To raise such an issue was to threaten the cohesion which made negotiation among different power centers possible at all."[30]

The Upper Basin Today

By 1974, many of the storage and power units and the participating projects had been completed, while a number remained under construction or in the planning stage. Tables 1 and 2 present some relevant information about the Project as of the end of fiscal year 1972. Of the presently authorized storage units, only the Curecanti is not yet fully developed, with the third unit--Crystal--not yet under construction. A number of participating projects, especially those authorized by the Colorado River Basin Act, are not yet under construction, and two--Dallas Creek and Savery-Pot Hook--have been deferred. The Pine River Project was deauthorized in 1968.

As an exercise in distributive politics, the Project has some interesting features. In terms of money spent and project size, Utah clearly has received the best of it. The Bonneville Unit receives the largest chunk of power revenue although, proportionate to the cost of the entire unit, it receives less than others--principally because the unit produces its own power, which is applied to the cost of the unit. The two major projects in New Mexico impose substantial burdens on the federal treasury, but the Navajo Indian Irrigation Project is entirely non-reimbursable. Colorado has the largest number of projects, but they are all relatively modest in size.

Another notable feature of the Project is the extent to which the costs of the developed unit exceed the estimated cost at the time of authorization. The reasons for this are numerous: changes in the design of the project once the detailed planning is undertaken; inflation over the period of planning and construction; and unexpected problems such as drainage difficulties. It is difficult to judge the frequently heard accusation that the Bureau of Reclamation deliberately underestimates the cost of projects, but the evidence is clear that it has consistently done so in the Colorado River Storage Project, and sometimes by factors of more than two.

The statistics indicate the extent to which each project relies on the power revenues to pay off the reimbursable costs, particularly those allocated to irrigation. The proportion varies from project to project, but in virtually every case it is substantial except where a large proportion of the cost can be charged to municipal and industrial use. This will be particularly the case with San Juan-Chama Project which will supply a large quantity of water for Albuquerque.

The average crop value per acre in the Colorado River Storage Project is relatively low, even by reclamation standards. Only three crops for which figures are available have average crop values over $100 per acre. The low crop values are of course related to the fact that the principal crop--almost the exclusive crop--grown on the participating units is forage. The utilization of scarce water for such low-value purposes raises important questions regarding future use of that water when higher value uses begin to be more readily available. The likelihood of transfers of use will depend on the flexibility of the legal and administrative institutions to accomplish those transfers.

Table 1: Storage Units in the Colorado River Storage Project as of June 30, 1972

Unit	Location	Cost Originally Authorized (millions of dollars)	Estimated Total Cost (millions of dollars)	Ultimate Plant Capacity (kilowatts)	Power Generated Fiscal Year 1972 (millions of kilowatt-hours)
Curecanti	Colorado	88.6	153.5	208,000	599
Flaming Gorge	Utah-Wyoming	83.1	74.9	108,000	676
Glen Canyon	Arizona-Utah	421.0	297.9	950,000	3,799
Navajo	New Mexico	36.6	42.4	-----	-----

Table 2: Participating Projects in the Colorado River Storage Project as of June 30, 1972[a]

Project	Location	Cost Originally Authorized (millions of dollars)	Estimated Total Cost (millions of dollars)	Ultimate Amount Reimbursed by UCRBF[d] (millions of dollars)	Average Crop Value per Acre (fiscal year)	Principal Crop
Bostwick Park	Colorado	3.850	9.057	5.706	93.92	forage
Bonneville Unit	Utah	219.511	456.605	141.076	---	forage
Jensen Unit	Utah	1.787	11.601	2.177	---	
Vernal Unit	Utah	7.048	10.174	7.409	86.50	forage
Eden	Wyoming	2.445	11.220	9.628	39.75	forage
Emery County	Utah	9.883	15.662	9.131	76.90	forage
Florida	Colorado	6.964	11.273	7.679	96.20	forage
Fruitland Mesa[b]	Colorado	27.185	40.776	33.845		
Hammond	New Mexico	2.310	7.205	6.303	133.99	forage
Lyman[b]	Wyoming-Utah	10.624	16.944	11.908		forage
Navajo Indian Irrigation	New Mexico	135.000	207.500	---	---	
Paonia	Colorado	6.954	8.229	5.209	145.66	forage
Pine River[c]	Colorado	3.240	3.468		56.99	forage
San Juan-Chama	New Mexico	85.428	92.211	---	---	
Seedskadee	Wyoming	23.671	59.292	39.672	---	
Silt	Colorado	3.373	7.883	6.102	119.06	forage
Smith Fork	Colorado	3.439	4.706	3.203	68.35	forage

[a] Deferred projects: Dallas Creek, Colorado; Savery-Pot Hook, Colorado-Wyoming
[b] Under construction
[c] Deauthorized in 1968
[d] UCRBF = Upper Colorado River Basin Fund

Source: U.S. Department of the Interior, Bureau of Reclamation, Water and Land Resource Accomplishments: Federal Reclamation Projects. Project Data, Statistical Appendix 1 and 3, 1972.

WHAT OF THE FUTURE?

The basically distributive character of Upper Colorado River Basin water politics seems amply demonstrated by the historical record. Only when a major conservation battle develops does water policy enter the regulatory area. In the two cases cited--Echo Park and Grand Canyon--the conservationists have won on the specific issue in controversy. But the price of winning may well have been acquiescence in distributive politics that is the very antithesis of planning and ecological concern. One leading defender of the environment, David Brower, was known to lament a considerable time after his victory on Echo Park, that the conservationists unnecessarily had given away one of the great natural wonders of the United States: Glen Canyon.

When these conservation issues were not present, those espousing water development for economic benefit to the various localites of the West have been able to succeed with almost token opposition from outside the region. The only limiting condition has been lack of agreement *within* the region. Once those disagreements have been resolved, the authorizing legislation has been relatively easily obtained.

The question remaining concerns the future: will it continue to be fought in the distributive arena, or will the issues come forth in a regulatory or redistributive arena? Several interrelated questions involving the entire Colorado River Basin suggest both the persistence of the distributive mode of problem-solving and the manner in which regulatory and redistributive modes may intrude.

The recency of the 1968 Colorado River legislation and the water pollution control legislation of 1972 suggests in itself the lasting power of the distributive style of politics dealing with water policy in the United States.[31] But other characteristics of the 1968 legislation in particular lend credence to the view that while distributive politics in the field will persist, it may be on a somewhat altered basis.

Obligations to Mexico and Interbasin Transfers

By the terms of the Colorado River Compact of 1922 and the Boulder Canyon Project Act of 1928, the waters of the Colorado River were divided between the two Basins, with the dividing point at Lee Ferry, Arizona, just below the present site of Glen Canyon Dam. In the event that the United States agreed to recognize rights on the part of Mexico to waters of the Colorado, the water supplied Mexico was to come from surplus; if no surplus existed, the Upper and the Lower Basins each would meet half of the burden.[32] An agreement was consummated with Mexico in 1944, granting to that country 1.5 million acre-feet annually.[33]

One of the important provisions of the Colorado River Basin Project was that the states of the Colorado River Basin in the United States would be relieved of the obligation of supplying water to Mexico under the Mexican Water Treaty of 1944.[34] The Act declares "that the satisfaction of the requirements of the Mexican Water Treaty from the Colorado River constitutes a national obligation..." This provision was tied to language in the Act which authorized investigations of water supplies of the western United States for the purpose of increasing the amount of water

available. The Colorado River itself would continue to supply water to Mexico under the terms of the Colorado River Compact and the Mexican Water Treaty until such time as the Lower Colorado Basin received a new supply of 2.5 million acre-feet.

The evidence is conclusive that the 1922 estimates of water flows of the Colorado River were over-optimistic. Only once since 1933 has the 10-year moving average of virgin flows reached the level of 15 million acre-feet on which the Colorado River Compact was based. From 1922 to 1968 the average virgin flow was only 13.8 million acre-feet. The states of the Colorado River Basin were therefore faced with the burden of supplying water to Mexico out of supplies apportioned to them by the Compact and, in the case of the Lower Basin at least, already in use. The answer, then, was to seek relief from this obligation, and this was supplied by means of the above provision of the Colorado River Basin Project Act. How the United States will meet this obligation remains unclear at this time. Interbasin transfers and weather modification are frequently mentioned sources of increased water supply. What does seem clear is that the taxpayers and the beneficiaries of the waters of the Colorado River in the southwestern states will be largely relieved of their obligations and that the taxpayers of the United States will assume them instead. Domestic distributive politics appears now to have an international hitching post.

The two most frequently mentioned sources of additional water raise other questions relating to distributive politics. The issue of interbasin transfers was roundly debated at the time of the passage of the Colorado Basin Project Act in 1968. Northwestern public officials, at the state level and in Congress, vigorously opposed even the study of interbasin transfers. Included in the Act was a provision that for the period of ten years from the date of the Act, the Secretary of the Interior could not undertake reconnaissance studies of any plan for importation of water into the Colorado River Basin from any other natural river drainage outside the Colorado River Basin states.[35] In partial compensation to the Southwest, a companion bill was passed which called for the creation of a National Water Commission for the purpose of studying water needs and consequences of water development for the quality of life of the American people.[36] Included in the suggested means of meeting water requirements in the United States was the possibility of interbasin transfers.

In 1973, the National Water Commission issued a report which must send chills up the spines of those who have played distributive politics with Western water policy in the past. The Commission urged the application of strict economic analysis in the evaluation of all such proposals for interbasin transfers, i.e., that there be clear-cut national economic gains and not simply income transfers and that the beneficiaries pay the full reimbursable cost of the water brought to their region, including compensation to the region that would export the water.[37] Given the fact that the adoption of such principles clearly takes decision-making on water development projects completely outside the distributive framework, there is little expectation that any projects would be authorized on that basis.[38]

Weather modification is in a transitional stage between basic research and applied science and its actual policy

dimensions remain yet to be revealed.[39] As a technique applicable to traditional reclamation policy, there presumably will be intense pressures to fit it within the policy mold laid down and refined since 1902. As a means of increasing the water supply of the Colorado River system and meeting the national obligation to Mexico, there would be strong incentives to write off the cost of public investment at taxpayers' expense.

Examining alternative futures in terms of population growth, pricing policies, and technological development, the National Water Commission concluded that it was unlikely that there would be outright water shortages for the nation as a whole or for the perennially water-short West. But the Commission admitted that there might be water shortages in some areas.[40] Politically speaking, however, it is the number and relationship of those shortage areas that give rise to speculation about a continuation of distributive politics on a much grander scale. Numerous schemes for interbasin transfers have been discussed, with costs varying from $1.2 billion to as much as $100 billion. The schemes range from transferring 1 million acre-feet of water from the Snake River to the headwaters of the Colorado River to grandiose schemes that would bring 110 million acre-feet of water from Canada, under the so-called North American Water and Power Alliance proposal.[41] That proposal would bring water from northern Canada not only to the Southwest but also to the Great Lakes and the Missouri-Mississippi Valleys.

Assuming it would be in Canada's interest--a very debatable point which Canada alone would have to decide--the American side of the proposal would involve the creation of a "Christmas tree" on which urban water supply, pollution control, irrigation development, and recreation would be the most notable ornaments. At least one Congressman from the Southwest, who despaired of ever getting an interbasin transfer strictly for the interests of his state, believed that when much broader regional interests were at stake, such a program of water transfers would be possible.[42] The terms of such transfers would, of course, have to be worked out, but the temptation for distributive politics to be the mode probably would be overwhelming. Moreover, as in the cases cited previously, a bargain might be struck between those who have some worthy environmental goal in mind and those who seek federal funding for projects which would facilitate the enactment of an entire package.

Water Quality and the Interests of Mexico

Another current illustration of the persistence of distributive politics concerns water quality in the Colorado River system. The "law of the river," consisting of compacts, statutes, treaties, and court decisions, is relatively silent on the question of water quality. The Colorado River Storage Project Act calls only for the Secretary of the Interior to undertake investigations of water quality. It appears that the negotiators for both the United States and Mexico, in consummating the Mexican Water Treaty of 1944, avoided the issue of water quality because both parties wanted the treaty and neither wanted to open up a subject that was likely to bog the negotiators in a dispute which might last several years.[43] The negotiators for the United States firmly disavowed any commitment on water quality in reporting to the Senate.[44] The

negotiators for Mexico apparently had a different interpretation, believing the United States had obligated itself to deliver to Mexico water of the same quality as that delivered at Imperial Dam just north of the Border.[45]

The quality of the water in the Colorado River at the Mexican border took a dramatic turn for the worse around 1961, apparently related to completion of a drainage system on the Wellton-Mohawk Project in Arizona as well as to continued upstream development generally. The Mexican government complained about severe damage to its crops in the Mexicali Valley and vigorously asserted its rights to water of quality equal to that delivered to Imperial Dam above the border. Over the next decade, the issue was the subject of several talks between the presidents of the United States and Mexico and among lower level negotiators. Several temporary expedients were adopted, but they were recognized as palliatives rather than solutions. However, in June 1972 President Nixon appointed Herbert Brownell as his special representative to seek a solution to the problem. After extended negotiations with the Mexican government, an agreement was announced on August 30, 1973.[46] The agreement calls for reduction of the salinity of the water received by Mexico to just slightly over the salt content of water at Imperial Dam. This is to be achieved by lining the first 50 miles (80 km) of the Coachella Canal that delivers water to the Coachella Valley in the United States; building a $67-million desalting plant to treat Wellton-Mohawk drainage; constructing a canal to carry Wellton-Mohawk drainage to the Gulf of Mexico; and facilitating financing of rehabilitation work on Mexican land. The effect of this agreement would be to offer Mexico essentially what it wished: 200,000 to 220,000 acre-feet of water available from Wellton-Mohawk drainage.[47] The United States would bear full costs, estimated to be at a minimum of $115 million for the entire package.[48] But U.S. Government expenditures would be looked upon as full compensation for damages claimed by Mexican farmers over the previous period of years.

That the agreement followed the norms of distributive politics within the United States was made absolutely explicit by Brownell in response to questions posed to him at a news conference upon announcing the agreement:

> This is a project that is based on dollars and not on water. I told the Western States at the beginning of the negotiations that nothing would be done, and nothing has been done as a result of this agreement, which would adversely affect the orderly development of the Western States. There are no limitations in the agreement which would adversely affect any of the planned programs for the development of natural resources of the basin States.[49]

The problems of the Colorado River in terms of water quality are more general, however. This is recognized by the Basin states and the Environmental Protection Agency (EPA) which are endeavoring to improve the quality of that river system. Representatives of the Basin states and the EPA had met in Denver in April 1972 to reconvene the Seventh Session of the "Conference in the Matter of Pollution of Interstate Waters of the Colorado River and Its Tributaries."[50] The delegates had reached conclusions and recommendations calling for the construction of salinity control projects on the Colorado River and its tributaries. These agreements were approved by the Administrator of EPA in June 1972. Their conclusions were largely

congruent with the recommendation for a salinity control program prepared by the Bureau of Reclamation for the Secretary of the Interior report issued in February 1972.[51] With the support of all 13 Senators from the Colorado River Basin states and 33 western Congressmen, a bill entitled the Colorado River Salinity Control Act was introduced into but not passed by Congress in 1973.[52]

The proposals enumerated in the Brownell agreement and the recommendations of the EPA and the Colorado River Basin states became a single legislative proposal in 1974. As introduced by Congressman Harold Johnson of California and 11 of his House colleagues, it would authorize both the desalination and control features below Imperial Dam as well as four salinity control projects on tributaries to the Colorado River above Hoover Dam.[53] This legislation was supported enthusiastically by Southwestern interests in hearings before the House Interior Subcommittee on Water and Power.[54] The Administration, however, opposed lumping the two proposals together, arguing that the Basin salinity control projects were premature because EPA and the states had not yet reached conclusions with respect to water quality standards on the Colorado River and because the feasibility studies of the specific projects were not yet complete. Only the Environmental Policy Center and the Sierra Club provided token opposition in urging consideration of alternatives such as shutting down entirely the Wellton-Mohawk Project and reducing irrigation usage in the Upper Basin.[55]

With almost lightning speed--at least for Congress--the salinity control program, with both its Mexican agreement and Basin-sponsored features, passed both houses of Congress. Administration objections, which included concern for the total costs and reimbursement features of such projects, were apparently wafted away. Specifically authorized were the following:

- Construction of a 129-million-gallon-per-day desalting complex for treatment of the heavily saline drain water from the Wellton-Mohawk Project, plus additional features such as pumping plants and extension of a by-pass drain. The desalting plant would reduce the dissolved solids in the feed water by 90 percent. All costs would be non-reimbursable.
- Acceleration of a program to improve irrigation efficiency in the Wellton-Mohawk Project. The District would bear a portion of the cost.
- Acquisition by the Secretary of the Interior of an initial 10,000 acres of the 75,000 acres in the Project for the purpose of reducing returned flows. There would be a reduction in repayment obligation and an offset for any increased operating costs.
- Acquisition of additional lands above Painted Rock Dam for temporary flood storage.
- Construction of a low canal or lining of the Coachella Canal for a length of 45 miles (72 km) for the purpose of conserving water presently lost to seepage. The cost of this construction would be repaid by the Coachella Valley County Water District in 40 years, under the stipulation that the payment period would not begin until the Central Arizona Project becomes operative.
- Construction and acquisition by the Secretary of the Interior of a well field near the Mexican border, the water to be delivered to Mexico under the treaty obligation. The cost of the well field would be non-reimbursable.
- Authorization to construct four salinity control projects (Paradox Valley,

Colorado; Grand Valley Basin, Colorado; Crystal Geyser, Utah; and Las Vegas Wash, Nevada) as an initial stage in the overall salinity control program.

o Authorization for investigation of 13 other identified sources of salinity, including irrigation, point, and diffuse sources. Reports would be sent to the Basin states for comment and thereafter to the President, Congress, and other federal agencies.

o Creation of a Colorado River Basin Salinity Control Advisory Council (composed of no more than three representatives from each state) for purposes of advising on the salinity control program.

o Seventy-five percent of the cost of each project would be non-reimbursable (1) in view of the federal responsibility for an interstate stream and for international comity with Mexico, and (2) because of federal ownership of most of the lands from which the dissolved solids originate. Twenty-five percent of the costs would be borne by the Upper Colorado River Basin Fund and the Lower Colorado River Development Fund, with allocation made on the basis of several criteria.

o Authorization to increase power rates charged under contracts administered by the Secretary of the Interior under the Colorado River Storage Project Act, in order to pay for the allocated costs of the salinity control projects.

o Authorization for expenditure of $155 million for the construction of the works in support of the Mexican agreement; authorization of $125 million for the construction of salinity control projects above Hoover Dam.

The issue of water quality of the Colorado River offers an obvious opportunity to play distributive politics in the context of achieving an international goal not achievable by that method. The interests benefiting from the water quality enhancement program will pay a modest proportion of the cost even though they, along with the federal agencies promoting their projects, largely created the water quality problem in the first place. Thus, domestic distributive politics becomes linked with international politics that ordinarily more closely resemble regulatory politics than any other mode. In dealing with Mexico, Weinberg states, "That the United States has been willing to go this far amounts to a recognition however reluctant and however costly that there is a strong national interest in resolving this dispute by agreement rather than by some form of arbitration or international judicial action."[56]

The Fate of Rainbow Bridge

In February 1973, after several years of legal, engineering, and economic argument, the Federal District Court for Utah presented a challenge to the traditional framework of decision-making. In the case of Friends of the Earth v. Armstrong the Court held that the Secretary of the Interior was obligated to prevent waters of Lake Powell from entering into the boundaries of the Rainbow Bridge National Monument.[57] The decision was based on the provisions of the Colorado River Storage Project Act which obliged the Secretary to "take adequate measures to preclude impairment of the Rainbow Bridge National Monument" and which expressed the intention of Congress "that no dam or reservoir constructed under the authorization of this act shall be within any national park or monument."[58]

The implications of this decision were serious and were taken seriously by the Upper Basin states. A decision to limit the level of Lake Powell would

substantially impair carefully worked-out arrangements for storage in Lake Powell that would allow the Upper Basin to develop irrigation capability and other development projects while releasing water for satisfaction of the obligations to the Lower Basin states and to Mexico. Moreover, the decision threatened the economic life of the Colorado River Storage Project, since the loss of power head would reduce substantially the power output and therefore the revenues to pay for the irrigation features of the Project.

The United States appealed the decision and won in the Circuit Court of Appeals.[59] The Circuit Court held that Congress had repealed by implication the provisions of the Colorado River Storage Project Act by its repeated and explicit refusals to fund works "to prevent waters of Lake Powell from entering any National Monument." It noted also that even when water was already in the Monument in 1972, Congress included such a proviso in its appropriation for the Bureau of Reclamation. The Court contended that the intent of Congress was that the storage of Lake Powell should be at design capacity rather than half of that capacity as would result from the Utah Federal District Court's decision. It noted also that, since 1956, several legislative authorizations had been given for projects which depended in some way on the storage capacity at Lake Powell. Of particular importance was the provision of the Colorado River Basin Act which required that the storage levels of Lake Mead and Lake Powell be as close to parity as possible.

Two judges dissented on grounds that the Court was usurping the power of Congress in removing a specific obligation created by Congress itself. The Supreme Court removed any doubt about the finality of the decision, at least from the courts themselves, by denying a petition for a writ of certiorari (choosing not to review the case) in January 1974.[60] Meanwhile, the water level of Lake Powell continued to rise during 1974 and filled the gorge under Rainbow Bridge.

Thus, the environmentalists lost an important battle for protection of a natural area against the forces favoring development. While the Circuit Court found legal bases for its decisions, its decision also clearly reflected a judgment that the overall needs of development took priority over the need for protection of a natural wonder in its pristine form. The costs of protection were deemed too great and the impairment too slight to merit a different conclusion.

CONCLUSION

The norms of distributive politics dictate that individuals and groups who seek some benefit from a public source create a united front on their separable but common interests. They then obtain their benefit from the public source without appearing to impose any burden on other interests in society. This may be, and usually is, accomplished through appropriations of money and imposition of the burden on the taxpayers. In water politics, at least, challenges have come only when other major interests in society were able to perceive damage to their interests. In the Colorado River Basin, these challenges have come only over conservation and interregional issues. It is clear that every effort is being made to continue policy-making in this same

mold, and the agreement on water quality at the Mexican border is but one more attempt to do so.

Inadequate attention is being given to the tough questions. How will the water supply of the Colorado River Basin be made adequate to the needs and expectations of the various interests who clamor for more? Will the needs require redefinition rather than supply? How are the needs to be determined--by some extrapolation of past growth or by a mechanism that is based more on the principle that those who want a resource more are willing to pay more? Should the taxpayers be required to finance development and water improvements in the Southwest--if so, why, and to what extent? In the immediate future, what evidence is there that the price tag attached to the desalination and by-pass program at the Mexican border will be anything more than a minimum estimate? Are there not other alternatives that may involve some sacrifice in the Southwest itself? Is every acre that has been cultivated in the past deserving of cultivation in the future? What are the limits of water quality degradation? Is the institutional arrangement dividing the waters of the Colorado River between the Upper and Lower Basins still a rational one? What incentives may there be to consider an alteration in that arrangement?

These are questions that can be answered only by challenging the present process of handling water-supply and water-quality questions in the Southwest: i.e., by considering them in a regulatory framework. The Environmental Protection Agency has moved in this direction in its quest for water quality standards for the Colorado. The courts have challenged this process in endeavoring to sort out environmental and developmental issues. But still the distributive mode prevails. It now has an international as well as a domestic foundation with the consummation of the Mexico-United States agreement on the salinity problem.

What may happen is that the challenge to traditional modes of decision-making will come from those concerned about redistributive questions. It may be recognized eventually that the price tag on distributive politics is simply too great, particularly in view of the benefits that the nation receives. Presidential impoundments, higher interest rates, and movements toward revenue-sharing may place redistributive questions squarely before the policy-makers and may touch off a serious concern about politics as usual in dealing with water policy. The present signs, however, do not suggest a significant movement in that direction.

FOOTNOTES

[Ed. Note] The following examples are provided to explain some of the abbreviations found in the footnotes.

P.L. 70-642 = Public Law 70-642

45 Stat. 1057 = Volume 45, Statutes-at-Large, page 1057

43 U.S.C. §§617-617v = Title 43, United States Code, Sections 617 through 617v

Arizona v. California, 373 U.S. 546 = the case of Arizona versus California, Volume 373, United States Reports, page 546

S. 1807 = Senate Bill Number 1807

H.R. 12165 = House of Representatives Bill Number 12165

485 Fed. 2d 1 = Volume 485, Federal Reporter, second series, page 1

42 LW 3423 = Volume 42, Law Week, page 3423

1. Theodore J. Lowi, "American Business, Public Policy, Case Studies and Political Theory," World Politics, Vol. XVI, No. 4, July 1964; "Four Systems of Policy, Politics and Choice," Public Administration Review, Vol. XXXII, No. 4, July/ August 1972, pp. 298-310.

2. For extended treatments of this controversy, see Owen Stratton and Phillip Sorotkin, The Echo Park Controversy, The Inter-University Case Program, University of Alabama Press, University, Alabama, 1959; see also Richard E. Baird, The Politics of Echo Park and other Development Projects in the Upper Colorado River Basin, Ph. D. Dissertation, University of Illinois, 1960; Roderick Nash, Wilderness and the American Mind, Cambridge, Mass., Harvard University Press, 1967, Ch. 10; Elmo Richardson, Dams, Parks and Politics, Lexington, Ky., University of Kentucky Press, 1973.

3. P.L. 70-642, Dec. 21, 1928; 45 Stat. 1057; 43 U.S.C. §§617-617v.

4. House Document 419, 80th Congress, 1st Session, 1946.

5. For an excellent discussion of these negotiations, see Jerome C. Muys, Interstate Water Compacts: The Interstate Compact and Federal-Interstate Compact, National Water Commission, Legal Study 14, 1971. The ambivalent position of the Bureau was nicely stated by the Commission's engineering adviser from the Bureau:
"As an engineer, I would like to see all the facts gathered. As a promoter and a member of the Bureau of Reclamation, I would like to see the States come to a quick agreement, select a list of projects and give them to the Secretary of the Interior and say, 'Mr. Secretary, we have agreed among ourselves we can build these projects that will use up 'x' amount of water, and we will not squabble up to here. We can surely build these amounts of projects.'" Upper Colorado River Compact Commission, Official Record, Vol. 2, Meeting No. 5, December 1-4, 1947, p. 22.

6. Upper Colorado River Commission, Official Record, Vol. 1, Meeting No. 3, October 29, 1949, p. 57.

7. Colorado Water Conservation Board, Minutes of Meetings, Meeting No. 60, February 16-17, 1953, p. 94.

8. U.S. Department of the Interior, Transcript of Proceedings in the Matter of Dinosaur National Monument: Echo Park and Split Mountain Dams, April 3, 1950.

9. Congressional Record, April 18-19, 1955, pp. 4573-4642.

10. Arizona v. California, 373 U.S. 546, 1963.

11. Arthur Maass, Muddy Waters, Cambridge, Mass., Harvard University Press, 1951, p. xiv.

12. Quoted in Congressional Record, June 27, 1953, p. 7438.

13. The Administration proposal was actually made known after the House hearings had begun. The House had already before it bills sponsored by Upper Basin interests.

14. H.R. 4443, 4449, 4463.

15. U.S. House of Representatives, Committee on Interior and Insular Affairs, Colorado River Storage Project, Hearings before the Subcommittee on Irrigation and Reclamation 1954 and 1955; U.S. Senate, Committee on Interior and Insular Affairs, Colorado River Storage Project, Hearings before the Subcommittee on Irrigation and Reclamation, 1954 and 1955.

16. House Hearings, 1955, pp. 427-428.

17. Colorado River Storage Project Act, 70 Stat. 105; 43 U.S.C. 620, section 2.

18. Congressional Record, April 18-19, 1955, pp. 4573-4642.

19. U.S. Department of the Interior, Bureau of Reclamation, Reclamation Project Feasibility and Authorizations, Cumulative Supplement to the 1957 Edition, 1968, p. 188.

20. Congressional Record, 1955, p. 4806; 4813.

21. Reprinted in "News Items of Interest," The Living Wilderness, Winter-Spring 1955-1956, p. 24.

22. Act of June 13, 1962, 76 Stat. 96, Public Law 87-483.

23. For a summary of action on the bill, see Congressional Quarterly Almanac, 1962, p. 469.

24. For a summary of action on this bill, see Congressional Quarterly Almanac, 1962, p. 472.

25. Ibid.

26. U.S. House of Representatives, Committee on Interior and Insular Affairs, Savery-Pot Hook, Bostwick Park and Fruitland Mesa, Reclamation Projects, Hearings before the Subcommittee on Irrigation and Reclamation, 88th Congress 2nd Session on H.R. 3672 and H.R. 3771, Part II, March 9-10, 1964, p. 142.

27. For a summary of action on this bill, see Congressional Quarterly Almanac, 1964, pp. 501-504.

28. See Helen Ingram, Patterns of Politics in Water Resource Development: A Case Study of New Mexico's Role in the Colorado River Basin Bill, Albuquerque, New Mexico, The University of New Mexico Publication No. 79 of the Division of Government Research, The Institute for Social Research and Development, 1969.

29. See Congressional Quarterly Almanac, Vol. XXIV, 1968, p. 813.

30. Ingram, op. cit., p. 37.

31. P.L. 92-500.

32. Article III (c).

33. Rio Grande, Colorado and Tijuana Treaty, 1944, Documents on the Use and Control of the Waters of Interstate and International Streams: Compacts, Treaties and Adjudications, T. Richard Witmer, ed., U.S. Department of the Interior, 1956, Article 10, p. 434.

34. Section 202.

35. Section 201.

36. P.L. 90-515, 90th Congress, September 26, 1968; 82 Stat. 868, section 3.

37. National Water Commission, Water Policies for the Future, Washington, D.C., USGPO, 1973, 317-333.

38. The views of the National Water Commission may of course be entirely ignored by decision-makers in Congress and the executive branch. Congress may continue to authorize on its traditional basis, emphasizing regional economic development as a justification for doing so. But the Commission points the other way: "While water resources projects have had very significant impacts on regional economic development and population distribution in the past, their role in economic development diminished as a higher level of economic development is attained" Ibid. p. 39. Instead the Commission believed that water policy should be used strategically to complement other public policies designed to meet public needs of economic, environmental and regional well-being.

39. Dean E. Mann, "Politics, Policy and Weather Modification," Paper presented at Legal-Political-Social-Economic Aspects of Climate and Weather Modification Conference, Center for the Study of Democratic Institutions, Santa Barbara, California, November 15-16, 1973; National Academy of Sciences, Committee on Atmospheric Sciences, National Research Council, Weather and Climate Modification: Problems and Progress, Washington, D.C., 1973.

40. See ch. 1, National Water Commission, Water Policies for the Future, Washington, D.C., USGPO, 1973.

41. See Ralph W. Johnson, Law of Interbasin Transfers, National Technical Information Service, Springfield, Virginia, Accession NO. PB 202619, 1971; some are even more grandiose; see Frank Quinn, "Continental Water Images: Past and Present" (mimeo, undated).

42. Dean E. Mann, Interbasin Water Transfers: A Political and Institutional Analysis, National Technical Information Service, Springfield, Virginia, Accession No. PB 208303, 1972 p. 138.

43. See Norris Hundley, Dividing the Waters: A Century of Controversy Between the United States and Mexico, Berkeley, University of California Press, 1966.

44. Senate Executive Report 2, 79th Congress, 4, 1945, Senate Foreign Relations Committee, Hearings on "Treaty with Mexico Relating to the Utilization of the Waters of Certain Rivers," 79th Congress, 7, 107, 322-4, 331, 338 (1945).

45. Ing. Adolfo Orive Alba, Chairman, National Irrigation Commission, "Technical Report on the International Water Treaty, August 19, 1945, translated by George H. Winters, Secretary, International Boundary and Water Commission, B-1, B-13-16, in Edward Weinberg, "'Salt Talks' United States and Mexican Style: A Case Study of the Lower Colorado River

Salinity Dispute." Mimeo, draft, May 23, 1973, a case study to appear in a publication of the American Society of International Law tentatively entitled International Responsibility for Environmental Inquiry, publication date early 1974.

46. Los Angeles Times, August 31, 1973, p. 1.

47. Weinberg, op. cit., p. 38.

48. Los Angeles Times, August 31, 1973, p.1.

49. Minute No. 242, International Boundary and Water Commission, Department of State Bulletin, September 24, 1973, pp. 395-396.

50. Environmental Protection Agency, Proceedings of the Reconvened Seventh Session of the Conference in the Matter of Pollution of the Interstate Waters of the Colorado River and Its Tributaries in the States of California, Colorado, Utah, Arizona, Nevada, New Mexico and Wyoming, Denver, Colorado, April 26-27, 1972.

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